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# ABSTRACT BOOK

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**Oral Presentation Session**

**Arrhythmia Issues in Everyday Practice**

**Date: 01.12.2022 Time: 12:00-13:00 Hall: 4**

ID: **60**

Topic: **Cardiology > Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

# EVALUATION OF THE RELATIONSHIP BETWEEN VENTRICULAR EXTRASTOLE FREQUENCY AND VENTRICULAR REPOLARIZATION PARAMETERS IN CHILDREN

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Objective: In this study, we aimed to reveal the effect of the frequency of VES in children aged between 0 and 18 years with normal cardiac functions who were followed up in our center for ventricular extrasystole (VES), on electrocardiographic repolarization parameters that show tendency to ventricular arrhythmias and to compare them with healthy controls in the same age group without VES.

Materials and methods: : Patients aged 0-18 years, who applied to Izmir Tepecik Training and Research Hospital, Pediatric Cardiology outpatient clinic between 2020-2021, diagnosed with VES and without structural heart disease as patients group and patients with the complaints of palpitations, syncope, chest pain, who had without structural heart disease, and were not found to have VES in their holters were included in the study as controls. ECGs of all patients participating in the study were taken, and the frequency of VES of the patients was determined from the holter recordings. The frequency of VES was classified as rare below 1%, mild between 1-5%, moderate between 5-10%, and very common above 10% in 24-hour Holter recordings. The ventricular repolarization parameters were compared by evaluating the standard 12-channel ECGs of the patients in the control group and the patients divided into 4 groups according to the percentage of VES. Heart rate, QTmax time, QTmin time, QT dispersion, QTcmax time, QTcmin time, QTc dispersion, Tpeak-end (Tp-e) interval, Tp-e/QT, Tp-e/QTc ratio and QT/QRS ratios were calculated.

Results: When grouped according to the frequency of VES, 6 patients were found to be <1%, 7 patients were between 1-5%, 5 patients were 5-10%, and 16 patients were >10% or more out of 34 patients with VES. It was observed that the demographic data of these patient groups and 34 patients in the control group were similar and there was no statistically significant difference between gender, age and BMI values.

When examined between all groups participating in the study, no significant difference was found between ventricular repolarization parameters and blood pressures. The correlation coefficients between the other variables and the % increase in VES were not statistically significant. Finally, when the patients with VES were compared with the control group, no significant difference was found between the repolarization parameters.

Conclusion: In this study, no significant difference was found between the VES-diagnosed group and the control group in terms of ventricular repolarization parameters. In addition, no significant correlation was found between the frequency of VES and these parameters. There may be two important reasons for this situation. Firstly, our small number of patients with frequent VES and secondly, due to the pediatric age group of our patient population, it can be shown that they are less exposed to age-related myocardial effects, unlike adults. For this reason, we planned to evaluate the results of our study again in the future with the inclusion of more patients with long-term follow-up. Our study is the first to examine the relationship between VES frequency and ventricular repolarization parameters in the pediatric age group

ID: **74**

Topic: **Cardiology > Transcatheter ablation for tachyarrhythmias - Ventricular tachycardia**

Presentation Type: **Oral**

# ISCHEMIC VENTRICULAR TACHYCARDIA ABLATION AFTER AN UNUSUAL COMPLICATION: CIRCUMFLEX ARTERY OCCLUSION AFTER MITRAL VALVE ANNULOPLASTY

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A 50-year-old male patient was brought to the emergency department with a loss of consciousness. An electrocardiogram (ECG) showed monomorphic ventricular tachycardia (VT), and electrical cardioversion was performed immediately. VT had a cycle length of 286 ms and a right bundle branch block pattern, indicating mid inferolateral wall origin VT (Figure 1A). Transthoracic echocardiography showed wall thinning and akinesis in the basal inferior and inferolateral wall of the left ventricle (Figure 1B). In his medical history, he had undergone a mitral annuloplasty operation for mitral valve prolapsus (MVP)-induced mitral regurgitation 4 years ago. Before the operation, coronary angiography (CAG) revealed no signs of coronary artery disease (Figure 1C). After the sinus rhythm was restored, CAG was performed to rule out acute coronary syndrome. CAG demonstrated total occlusion of the left circumflex (LCx) artery and collateral blood flow to the distal LCx (Figure 1D). This finding suggested that there was an intraoperative injury to the LCx. Myocardial perfusion scintigraphy was performed to assess the viability and detected a myocardial scar in the mid inferolateral territory of the left ventricle. VT episodes recurred during the hospitation despite the treatment with amiodarone and beta-blocker. An electrophysiologic study was performed using a 3-dimensional navigation system (EnSite Precision Cardiac Mapping System, St Jude Medical), and VT was induced with a single extra stimulus. Successful radiofrequency ablations (35W, 50oC) were made in a mid inferolateral wall region where the scar is located (Figure 1E, 1F), and ultimately, an implantable cardioverter-defibrillator (ICD) was implanted in the patient before discharge from the hospital. At 4 months of follow-up, there were no episodes of ventricular arrhythmias on the ICD records.

LCx artery injury due to mitral valve surgery is a rare but devastating complication and can occur by direct injury from suture, kinking, or compression from the prosthetic material. Early recognition of this complication is essential and can restore coronary flow. However, delays in the diagnosis may impair myocardial blood flow and cause late complications. To the best of our knowledge, this is the first case of the VT ablation after the late complication of the LCx artery injury after the mitral valve surgery

ID: **120**

Topic: **Cardiology > Electrocardiography and non-invasive electrocardiology**

Presentation Type: **Oral**

# EFFECTS OF PSYCHOTROPIC MEDICATIONS ON ELECTROCARDIOGRAPHY

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Introduction and aim :

In recent years, the number of psychiatric patients has been increasing and psychotropic drugs have become the most commonly used drugs. These drugs may affect the cardiovascular system. In this study, we aimed to examine the side effects of psychiatric drugs on EKG.

Methods:

Eighty-five patients with a psychiatric diagnosis and using psychoactive drugs were included in this study. Of these patients, 45 are men and 40 are women with age ranges from 23 to 94. ECG's taken from patients and PR duration , QRS duration and corrected QT durations from each ECG. Association between psyhiatric drugs (akineton, haldol, zyprexia, prolixin, dogmatil, risperdal, diazem, tegretol, sulfirid, cipram, seroquel, depaqin, stelazin,anafranil, rivotril, clopixol, largactil, melleril, norodol ) and PR duration , QRS duration and corrected QT durations were statistically analyzed .

Results :

All statistical analyzes were performed at the 95% confidence interval with the IBM SPSS software package (version 24.0, IBM, Armong, NY, USA) and $p<0.05$ was accepted at a significant level. Quantitative variables were analyzed by Friedman analysis for the dependent group. Also independent

groups were compared with the Mann-Witney U test. In this study, Haldol, Epanutin and norodol's long PR, risperdal, seroquel, clopixol and we found that norodol can cause long QRS duration, depakin, stelazine, melleril, norodol can cause long QT.

Discussion :

In this study, among the psychoactive drugs, norodol is the most affecting ECG and causes long PR, long QRS duration and long QT. When using psychiatric tablets, physicians, nurses, families have cardiovascular side effects and regular ECG checks should be checked.

Keywords: PR duration , QRS duration , long QT, psychiatric drugs, ECG

ID: **183**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# FEAR OF COVID-19 SCALE: DOES ANXIETY CAUSE ARRHYTHMIA?

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INTRODUCTİON

In December 2019, a new form of coronavirus (SARS-CoV-2) emerged in Wuhan, China, causing a pandemic that has continued since then. Many countries have implemented strict quarantine rules in order to prevent the spread of the disease and to control the pandemic with the least possible damage. Quarantine measures have affected many aspects of their lives by allowing many people to live in isolation. (1) In fact, many studies have shown that the COVID-19 pandemic poses serious threats to people's physical health, and people experience a great sense of anxiety and stress because of this.(2) , 3) This anxiety and stress may cause physical functional disorders such as palpitations, chest tightness and insomnia in the future; It can cause physical and mental diseases such as anxiety disorders, depression disorders, endocrine disorders and hypertension.(2, 4) Recently, a scale was developed by Ahorsu et al. to measure fear of COVID-19 and it has been used in many countries.(5) The main purpose of this study is to show whether the fear of COVID, measured by this scale, is associated with heart rate variability measured with a 24-hour rhythm holter device in healthy adults without a known chronic disease. Heart rate variability is a method used to predict sudden death and arrhythmias.(6) In our study, it was aimed to determine whether fear of COVID-19 affects heart rate variability by affecting sympathetic / parasympathetic system activation in healthy adults.

MATERIAL AND METHOD

A total of 67 healthy adults, 35 men and 32 women, were included in the study. The mean age of those included in the study was 51±16.4, there was no chronic disease and regular drug use. 13 of 35 men and 7 of 32 women had COVID-19. All participants underwent 24-hour rhythm holter examination and heart rate variability parameters were evaluated. In addition, the COVID-19 Fear Questionnaire was administered to all participants.

RESULTS

67 healthy adults without chronic disease were included in our study. 20 of these participants had previously had COVID-19. Covid-19 fear score minimum 7, maximum 35; mean covid fear score was 17.4±7.2. A negative correlation was found between the Covid fear score and SDNN24, SDANN, rMSSD, pNN50, SPECTRAL24 values, which reached statistical significance. Among the heart rate variability measurements between the group with and without Covid, a statistically significant difference was found only between SPECTRAL24.

## DİSCUSSİON

The relationship between changes in autonomic nervous system activity and cardiovascular morbidity and mortality is well known. Heart rate variability (HRV) is a statistical measure of heart rate varying from beat to beat and has been shown in many studies to be a useful non-invasive finding for assessing cardiac autonomic function. The decrease in heart rate variability informs us about sympathetic and parasympathetic balance; It is indirectly associated with increased sympathetic and decreased parasympathetic activity. While the change between heart cycles, that is, HRV, decreases in people with very intense sympathetic activity, HRV increases in people with high parasympathetic tone. Therefore, by looking at HRV, it can be understood which part of the autonomic nervous system is more active in a person. Low HRV is associated with an increased risk of sudden cardiac death and arrhythmic events.(6-8)

Heart rate variability was previously used to predict the risk of cardiac death and ventricular arrhythmia in patients with coronary artery disease or heart failure, and low HRV was found to be an independent risk factor for total mortality, mortality due to heart failure, sudden cardiac death, ventricular arrhythmia, and the need for heart transplantation.( 9, 10) In another study, it was shown that decreased heart rate variability in obesity is an independent variable in predicting mortality and morbidity.(11) Heart rate variability in psychological diseases was investigated and it was shown that stress and depression reduce heart rate variability. (12)

In our study, in healthy adults; both in those who have been diagnosed with COVID-19 before and those who have not; In the measurements of SDNN24, SDANN, rMSSD, pNN50, SPECTRAL24, which are the parameters of heart rate variability, an inverse correlation was found with the COVID-19 fear scale. Our study has shown that; increased fear of COVID-19 in healthy adults; heart rate variability decreases. As the fear, anxiety and stress level increases, parasympathetic activity in the body is suppressed and sympathetic activity becomes dominant. Whether this situation is associated with arrhythmia or sudden death in long-term follow-up has not been investigated yet, new studies are needed on this subject.

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ID: **345**

Topic: **Cardiology > PI for SHD-Transcatheter aortic valve replacement**

Presentation Type: **Oral**

# THE ROLE OF CARDIAC ELECTROPHYSIOLOGICAL STUDY IN PREDICTING ATRIOVENTRICULAR BLOCK DEVELOPMENT BEFORE AND AFTER TAVI IN PATIENTS WITH SEVERE AORTIC VALVE STENOSIS

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Aim: Despite the recent advances in valvular technology and increasing clinical experience and decrement in complications of transcatheter aortic valve implantation TAVI procedures, the improvement in conduction defects is not as fast as expected, the newly developed bundle Branch block the need for permanent pacemaker implantation after some new generation transcatheter aortic valve implantation has increased. We planned to perform electrophysiological study before and after TAVI procedures in order to predict the development of AV block and LBBB after implantation and to examine whether there is any change in the cardiac conduction system after the procedure.

Materials and methods: For whom we decided to perform TAVI by our team it was planned to enroll 30 patients . 7 were not included, 4 patients because of atrial fibrillation 2 patients refused and 1 patient had a permanent pacemaker. 23 patients included 12 were male and 11 were female . MSCT was performed in order to evaluate the aortic valve aorta and periheral arteries before the procedure, echocardiograms were taken and detailed echocardiygraphy were performed. Electrophysiological study performed before and after the procedure, changes in cardiac conduction system before and after were recorded. Ecg recording also recorded. Ecg follow up were performed after and 3 months later the procedure. Patients with ecg changes were compared with there basic electrophysiological parameters before the procedure

Results: Before and after TAVI, a statistically significant increase was observed in basal cycle length atrial his, his ventricule and atrioventricular distance. ($p=0,039$, $p<0,001$, $p=0,018$, $p<0,001$) During the procedure HV duration before the procedure was longer in those who developed AV blok than those who did not, there was statistically significant difference. ($p=0,024$) There was not statistically significant difference in pre procedure electrophysiological parameters of the patients in whom permanent pacemaker was placed compared to the group whom not placed . Before the procedure HV distance was 98 msn in the group with premenant pacemaker and 66.27+15.55 msn in the group without, there was statistically borderline significance in this section ($p = 0.059$)

Conclusion: During TAVI it was observed that before the procedure we can not accurately determine the anatomical location, pressure on AV node and his bundle which is in location different from person to another, as a result temporary or permanent AV block BBB developed. Those who developed AV block during the procedure have significantly higher HV distance before than those who did not develop . The prolongation of the HV ınterval in patients with AV block also indicates that the block mostly at the infra hisian level . Care should be taken in patients long HV ınterval before TAVI in terms of the need for a pacemaker implantation after the procedure.

ID: **166**

Topic: **Cardiology > Transcatheter ablation for tachyarrhythmias - Supraventricular tachycardia**

Presentation Type: **Oral**

# RADIOFREQUENCY ABLATION OF RECURRENT LEFT FOCAL ATRIAL TACHYCARDIA IN OPERATED TGA PATIENT

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Objective: Arrhythmia management in grown-up congenital heart diseases is often challenging due to substrate variations. There is a minor increase in the risk of supraventricular arrhythmias in patients who have undergone arterial switch surgery. However, most of these are intra-atrial reentrant tachycardias due to incision. In this case, we aimed to present the successful ablation of recurrent focal atrial tachycardia originating from the anterior region of the mitral annulus, which is rare in operated transposition of great arteries (TGA) patients, with low radiation exposure.

Case: A 24-year-old female with a history of operated TGA (arterial switch) and pulmonary stenting was admitted to the cardiology clinic for recurrent paroxysmal tachycardia attacks. The patient had no history of cigarettes, alcohol, drugs, or medications. Her ECG during palpitation demonstrated a long RP, narrow QRS regular tachycardia with a heart rate of 160 bpm. It was planned to undergo SVT ablation. Coronary sinus (CS) and a CARTO bidirectional radiofrequency ablation (RFA) catheter were used via the right femoral vein. The tachycardia revealed CL variation suggesting focal mechanism. Activation mapping was performed under the guidance of scope and electro-anatomical mapping merging CARTOUnivu module to ensure low radiation exposure. (Figure 1) When left atrial activation was seen throughout the His region at a relatively large area, LA was accessed through the transseptal puncture. The earliest A was identified in the anterior mitral annulus. The tachycardia was suppressed using RFA in this area. The lesion was then enlarged. Post RFA, tachycardia was not observed.

Discussion/ Conclusion: Left atrial tachycardias commonly originate from the ostia of the pulmonary veins. However, in our case, the source of the tachycardia was anterior to the mitral annulus, which is uncommon. No such case is reported in the literature in individuals with TGA who were corrected with an arterial switch operation. Although the operation history was evaluated among the probable causes, the scar association was not prioritized because there was no left atrial incision in the procedure. Because of the patient's young age, radiation exposure was attempted to be limited, and the CARTOUnivu module was utilized in the mapping to accomplish this. It also provided a benefit because it provided anatomical guidance.

**Oral Presentation Session**

**Minimally Invasive Cardiac Surgery : A New Era**

**Date :01.12.2022 Time :12:00-13:00 Hall : 5**

ID: **51**

Topic: **Cardiovascular Surgery > Minimally invasive ASD/VSD closure**

Presentation Type: **Oral**

# MINIMALLY INVASIVE APPROACH FOR LEFT VENTRICULAR ANEURYSM AND THROMBUS

**Cengiz OVALI**

*Eskişehir Osmangazi University, Eskişehir, Turkey*

Minimally invasive cardiac surgery has been developing rapidly in recent years. Currently, all kinds of valve surgeries, ASD and VSD repairs, single or multiple coronary bypass surgeries and myxoma excisions have been started to be performed through minimally invasive approaches in advanced centers and our clinic.

The main goal for the minimally invasive cardiac surgery strategy is to cause less tissue trauma, excision and bleeding. Moreover, this approach increases patient comfort and offers speedy recovery and better cosmetic results.

Left ventricular (LV) thrombus is a serious complication of heart failure, which usually develops after a large-scale anterior myocardial infarction. The development of thrombus can lead to systemic embolization and, consequently, to high mortality and morbidity, and therefore early diagnosis and treatment are of great importance.

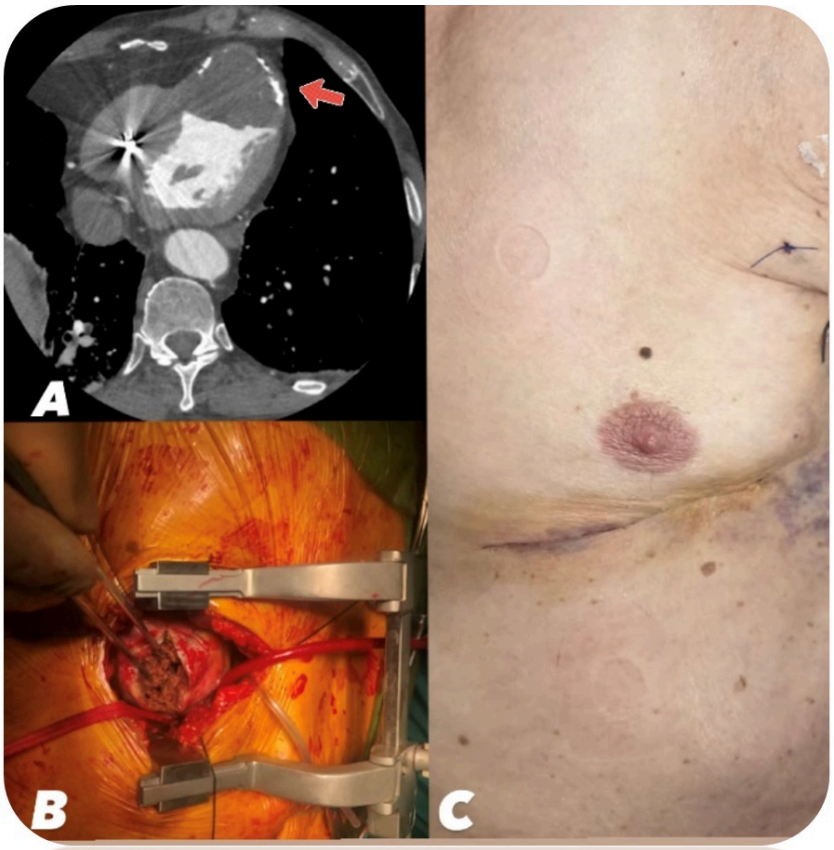
In the present case, a 67-year-old male patient diagnosed with a large thrombus (approximately 5x4cm in dimensions) filling most of the LV was treated with minimally surgical invasive approach. Akinesia and an aneurysm were also present in the apical part of his LV owing to total blockage of the left anterior descending artery (LAD). In addition, the patient was using implantable cardioverter defibrillator (ICD) and previously suffered four times from cerebrovascular events.

The operation was performed in a 30-degree position to the right. Single-lumen intubation was used for the intervention. Peripheral cannulation was performed through the right femoral artery and vein. An incision of about 6 cm was made under the left breast. A cross clamp was placed with the Chitwood clamp, and cardiac arrest was achieved using cardioplegia administered through the root cannula. The access to the left ventricular aneurysm was established through the 4th intercostal space. From here, aneurysmectomy and thrombectomy were performed. The site where aneurysmectomy was

performed was repaired using PTFE patch and closed with teflon strip supports.

The patient was mobilized at the sixth hour after extubation, no movement restrictions were applied, and he was taken to the ward a day later. The total drainage was 360 cc. There were no postoperative complications and he was discharged on the fifth day. There were also no problems with the patient's controls.

As a result, we preferred minimally invasive method in patients with several serious risk factors, and with high mortality and morbidity rates. In this way; less drainage, less risk of infection, faster mobilization and quicker recovery were achieved.




**The pictures pertaining to the patient. A:** Preoperative CT image, **B:** Preoperative photo, **C:** Postoperative photo

ID: **139**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# IMPELLA ASSISTED OFF-PUMP CABG REDUCES 30-DAY MORTALITY IN PATIENTS WITH ISCHEMIC CARDIOMYOPATHY UNDERGOING ISOLATED CABG SURGERY

**Shamsuddın KHWAJA**, John LIN

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BACKGROUND

Patient with ischemic cardiomyopathy and reduced left ventricular ejection fraction are considered at high risk for 30-day mortality from isolated CABG surgery. Recently off-pump CABG has been shown to reduce this risk. Impella ventricular support system has been used in patients requiring high risk PCI. We studied if addition of Impella to support off pump CABG can reduce 30-day mortality risk in patients with ischemic cardiomyopathy requiring isolated CABG surgery.

METHODS

Over course of 4 years, we started using Impella to perform off-pump CABG surgery in patients with reduced left ventricular ejection function. Retrospective analysis of patients was done recording gender, age, ejection fraction, days on Impella after CABG, and 30-day survival to discharge. We also calculated the estimated 30-day mortality risk using the online STS adult cardiac surgery risk calculator (Version 4.20). We report data as average with standard deviation and range.

RESULTS

Total of 37 patient underwent Impella assisted off-pump CABG surgery. All patients tolerated surgery without requiring cardio-pulmonary bypass support. Of this group, 29 (78%) were males and average age of all patients was 63+12 years (37-91 years). The average left ventricular ejection fraction was 21.4+7.4 % (10-40%). Average days on Impella after CABG was 4.0+2.2 days (range 2.0-10.8 days). Observed 30-day mortality was 0 and all patients were discharged from hospital. Predicted STS 30-day mortality risk for this cohort was 4.5+7.3 % (0.44-32.27%).

CONCLUSIONS

Impella assisted off-pump CABG surgery is associated with reduced 30-day mortality risk in patient with ischemic cardiomyopathy requiring isolated CABG surgery.

ID: **113**

Topic: **Cardiovascular Surgery > Risk management in cardiovascular diseases**

Presentation Type: **Oral**

# IS THERE AN ADDITIONAL IMPACT OF ENHANCED RECOVERY AFTER CARDIAC SURGERY (ERACS) PROTOCOLS ON PATIENTS OPERATED VIA MINIMALLY INVASIVE CARDIAC SURGERY?

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BACKGROUND: Use of minimally invasive cardiac surgery (MICS) is increasing, but to exert its maximum effect on patient outcomes, MICS must be coupled with improved perioperative management, including the Enhanced Recovery After Cardiac Surgery (ERACS).This study aims to ascertain whether it is feasible to deploy an ERACS protocol in patients undergoing MICS and to document the impact on clinical outcomes.

METHODS: During the period from September 2020 until June 2022, 75 patients undergoing MICS were managed by ERACS protocol versus 75 propensity score matched MICS and control patients of previous era. The Institutional Ethics Committee approved the study (2/09/2020-1024). Exclusion criteria were urgent surgery/no consent. Primary outcomes were the use of blood products, early extubation rate (<4 h) and ICU/hospital stay. The results for impact on life, symptom severity, visual analogue score (VAS), and EQ-5D-5L were compared for differences over time (baseline vs discharge). EQ-5D-5L consists of a visual analogue scale (VAS) and a descriptive system comprising five dimensions each with five levels of response. These can be combined in a 5-digit profile describing the respondent's health state which can be converted to a single index value where a score of 1 represents perfect health and 0 represents death.

RESULTS: 3 patients in the study group were excluded due to lack of follow-up data. There was not any difficulty reported in the implementation process of the protocol. Following parameters were significantly better in the study groups (ERAS_MICS; MICS) versus control: Early extubation (68/59/21 patients),red blood cell transfusion (0.5±0.5; 0.8±0.5; 3±1 units), ICU stay (22±6; 25±6; 39±10 h) and hospital stay (5.6±2; 5.9±2; 7.6±2 days). EQ5D-5L/VAS scores significantly improved in the MICS_ERACS group versus only MICS (0.9 vs 0.75/75 vs 60) but could not be compared with the control group due to lack of data.

CONCLUSION: ERACS has shown to be potentially safe and effective in improving certain postoperative outcomes resulting in earlier recovery and increased patient satisfaction in MICS. ERACS and MICS may work as a perfect couple to be a competitive option to adopt in specific patients versus interventional options.

ID: **228**

Topic: **Cardiovascular Surgery > Minimally invasive CABG**

Presentation Type: **Oral**

# MULTIVESSEL ANASTOMOSIS OF BEATING HEART SURGERY IN MIDCAB

**Sinan GÖÇER**

*Bahcesehir University, İstanbul, Turkey*

Objective: We discuss our experiences undergoing a minithoracotomy for beating heart coronary revascularization surgery.

Methods: We have been performing minimally invasive coronary artery surgery at our clinic between February 2022 and Agust 2022. A mini-thoracotomy was performed on 55 individuals over the course of around 6 months. The beating heart had 27 revascularizations after a left anterior mini-thoracotomy. Patients with coronary artery disease and valvular pathology, as well as patients with emergency situations, were excluded. All patients had surgery using a left anterior mini-thoracotomy technique from the 5th intercostal space and double lumen intubation with the left lung collapsed.

Results: Lima-lad graft was used in 3 of 27 patients who underwent beating heart. Lima-lad and diagonal-saphenous vein grafts were performed in 6 patients. Lima-lad, Cx- saphenous vein graft, diagonal-saphenous vein graft were performed in 10 patients. Lima-lad, Cx-saphenous vein graft, diagonal-saphenous vein graft and Rca-saphenous vein graft anastomoses were performed in 8 patients. The patients remained between 5 and 13 days in the hospital. The total time for extubation ranged from 220 to 430 minutes. On the third day following unstable hemodynamics caused on by persistent ventricular fibrillation and acute renal failure, one patient died.

Conclusions: Early graft thrombosis did not occur in all MIDCAB grafts revascularized with left anterior mini-thoracotomy. According to our experience, the first six months of results are comparable to traditional cardiopulmonary bypass.

ID: **268**

Topic: **Cardiovascular Surgery > Minimally invasive CABG**

Presentation Type: **Oral**

# CONVERSION TO MEDIAN STERNOTOMY IN ROBOT-ASSISTED AND MINIMALLY INVASIVE DIRECT CORONARY ARTERY BYPASS GRAFTING: REASONS AND PREDICTING FACTORS

**Emre YAŞAR**[1], **Lokman YALÇIN**[1], Zihni Mert DUMAN[2]

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Conversion to Median Sternotomy in Robot-Assisted And Minimally Invasive Direct Coronary Artery Bypass Grafting: Reasons and Predicting Factors

Objective:

Sternal sparing coronary surgery is becoming a safe and effective alternative to conventional coronary surgery globally. Despite advanced techniques and increasing surgical experience, conversion to median sternotomy is still a well-known complication of minimally invasive procedures. In this study we aimed to investigate the reasons and predicting factors for conversion to sternotomy in robot assisted (RACAB) and minimally invasive direct coronary artery bypass grafting (MIDCAB).

Methods:

We analyzed retrospective review of 137 patients who underwent sternal sparing coronary artery bypass grafting between January 2021 to June 2022. The patients were divided into two different groups according to surgical approach: robot-assisted (RACAB) and minimally invasive direct (MIDCAB) groups. Preoperative , intraoperative data including conversion to sternotomy and postoperative data were compared.

Results:

Conversion to sternotomy occured in 15 patients (%10.9). Conversion to sternotomy was not statistically different between RACAB and MIDCAB groups; 5 patients (%7.9) and 10 patients (%13.5) respectively. (p= 0.29). Preoperative and postoperative data do not differ statistically between two groups. Lung adhesions were the most common reason for conversion which occured in 5 patients ( %33.3). Uncontrollable bleeding and hemodynamic instability were both seen in 3 patients (%20). Intramyocardial left anterior descending artery, LIMA dissection and dysfunction were among the other reasons for conversion. There was no hospital or 30 day mortality in either groups.

Conclusion:

Sternal sparing coronary surgery is increasingly becoming widespread and offers a safe and reproducible alternative to conventional CABG. Anatomical and technical errors occasionally put the operation at risk and necessitate creative solutions. Median sternotomy as the most widely used approach for coronary surgery is easily utilized and can be a life-saving technique especially in times of jeopardy.

**Oral Presentation Session**

**New Dimensions in Syncope Management**

**Date :01.12.2022 Time :13:00-14:00 Hall:4**

ID: **216**

Topic: **Cardiology > Syncope**

Presentation Type: **Oral**

# SYNCOPE BY INTERMITENT AV-BLOCK WITH NORMAL ELECTROPHYSIOLOGYCAL STUDY TREATED WITH CARDIONEUROABLATION

**Jose Mıguel CAYO MONTES**[1], Jose Carlos PACHÓN MATEOS [2]

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*[2]HEART HOSPITAL, SAO PAULO , Brazil*

INTRODUCTION: Functional atrioventricular block (BAV) can generate pre-syncope and syncope to the point of compromising patients‘ quality of life, and pacemaker implantation does not resolve the condition in some cases, it is important to clarify the diagnosis, especially in young and without structural heart disease. OBJECTIVE: To perform cardioneuroablation (CNA) of the parasympathetic cardiac ganglia to modulate the vagal influence on the heart and thus eliminate the cardioinhibitory response on the AV Node, treating syncope due to functional BAV, as an alternative therapy to pacemaker implantation. METHODS: CNA was performed in 8 patients under 50 years of age, who had syncope due to BAV, normal electrophysiological study and positive atropine test. The mapping of the parasympathetic ganglia, the neuromyocardial interface and the mapping of AF nests was performed with the Navix-St-Jude system. These regions and those anatomically related to the 4 ganglia were treated with endocardial radiofrequency (RF) ablation. Extracardiac vagal stimulation (ECVS) is used for the end point of the procedure, demonstrating the absence of parasympathetic activity on the sinus node and AV node, proving vagal denervation in these structures. RESULTS: Imediate and persistent increase in heart rate was observed after CNA (HR=61, final HR=78bpm), Wenckebach point increase (PW:100->148ppm) p: <0.05. In the short and long term follow-up (after 05 years) the patients had no more syncope episodes. Holter monitoring performed at 03 months of follow-up in these patients did not record pauses or BAV, and the R-R variability was predominantly sympathetic (SDNN=30ms). CONCLUSION: Syncope and normal EPS may be caused by functional origin; Functional AV block may be treated by Cardioneuroablation without pacemaker implantation; Extracardiac vagal stimulation was fundamental to evaluate the CNA step by step.

ID: **77**

Topic: **Cardiology > Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

# CARDIONEUROABLATION IS ASSOCIATED WITH IMPROVED HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH CARDIOINHIBITORY TYPE VASOVAGAL SYNCOPE

**Ferit Onur MUTLUER**[1], Alara Ece DAĞSALI[2], **Umur Cengiz KUMRULU**[3], Tolga AKSU[1]

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[2]*Medipol University Medical School, Istanbul, Turkey*

[3]*Marmara University Medical School, Istanbul, Turkey*

Introduction: Cardioneuroablation(CNA) emerged as a safe and feasible alternative in treatment of vasovagal syncope (VVS). The aim of this study was to demonstrate if this novel treatment results in improvement in quality of life(QoL) of the patients.

Method: Patients with documented cardioinhibitory type VVS in tilt table testing, who underwent CNA in our center, were enrolled in this study. ECGs were obtained prior to procedure, and at 6 month follow-up visit. QoL was assessed with the use of SF-36 and EQ VAS questionnaires.

Results: Twenty-seven patients (age: 34±14 years, 48% female) were enrolled in this study. ECG data were available in 25 patients while QoL data were available in 27 patients. At 6-month follow-up, heart rate significantly increased (74±15bpm to 84±14bpm, p=0.003). QoL assessed by SF-36 score improved significantly in postprocedural follow-up(92±9 and 96±11,p=0.016). Similarly, significant improvements in mobility, self-care and usual activity domains of EQ-5D was observed(mean scores of 3.0±1.5 and 2.1±1.3,p<0.001; 1.3±0.9 and 1.2±0.6,p=0.041; 1.7±1.0 and 1.4±0.8 respectively). EQ-VAS score also improved significantly(39±24 to 77±18,p<0.001).

Conclusion: Our findings suggest that CNA might be associated with improvement in QoL in patients with VVS.

Table 1. Baseline characteristics, and change in ECG and quality of life measures at 6 month follow-up.

| | Valid Cases | Pre-CNA | Post-CNA | p |
|---|---|---|---|---|
| Demographics | | | | |
| Female,n(%) | 25 | 13(48) | - | - |
| Age,years | 25 | 34±14 | - | - |
| Higher education,n(%) | | | | |
| Electrocardiography | | | | |
| Heart rate,bpm | **25** | **74±15** | **84±14** | **0.003** |
| PR,ms | 25 | 160±62 | 162±56 | 0.62 |
| QT,ms | 25 | 387±40 | 372±45 | 0.10 |
| Quality of Life | | | | |
| SF-36 Score | 27 | 92 ± 9 | 96±11 | 0.06 |
| PCS | | | | |
| MCS | | | | |
| EQ-VAS Score | **27** | **39±24** | **77±18** | **<0.001** |
| *Mobility* | **27** | **3±2** | **2±1** | **<0.001** |
| *Self-Care* | 27 | 1±1 | 1±1 | 0.041 |
| *Usual Activity* | **27** | **2±1** | **1±1** | **0.021** |
| *Pain* | 27 | 2±1 | 2±1 | 0.11 |
| *Anxiety* | 27 | 2±2 | 2±1 | 0.17 |

CNA: cardioneuroablation

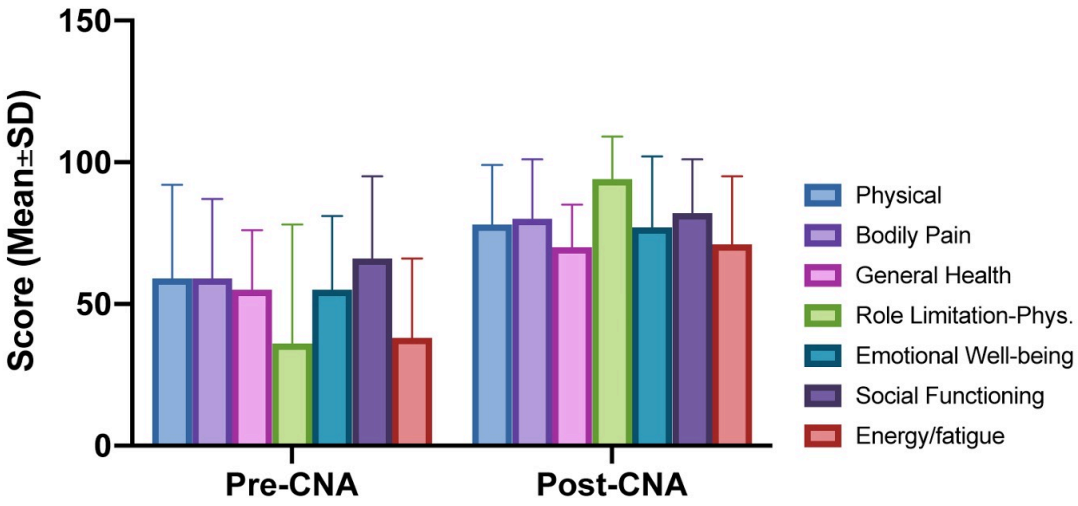


Figure-1. Improvement in domains of SF-36 survey.

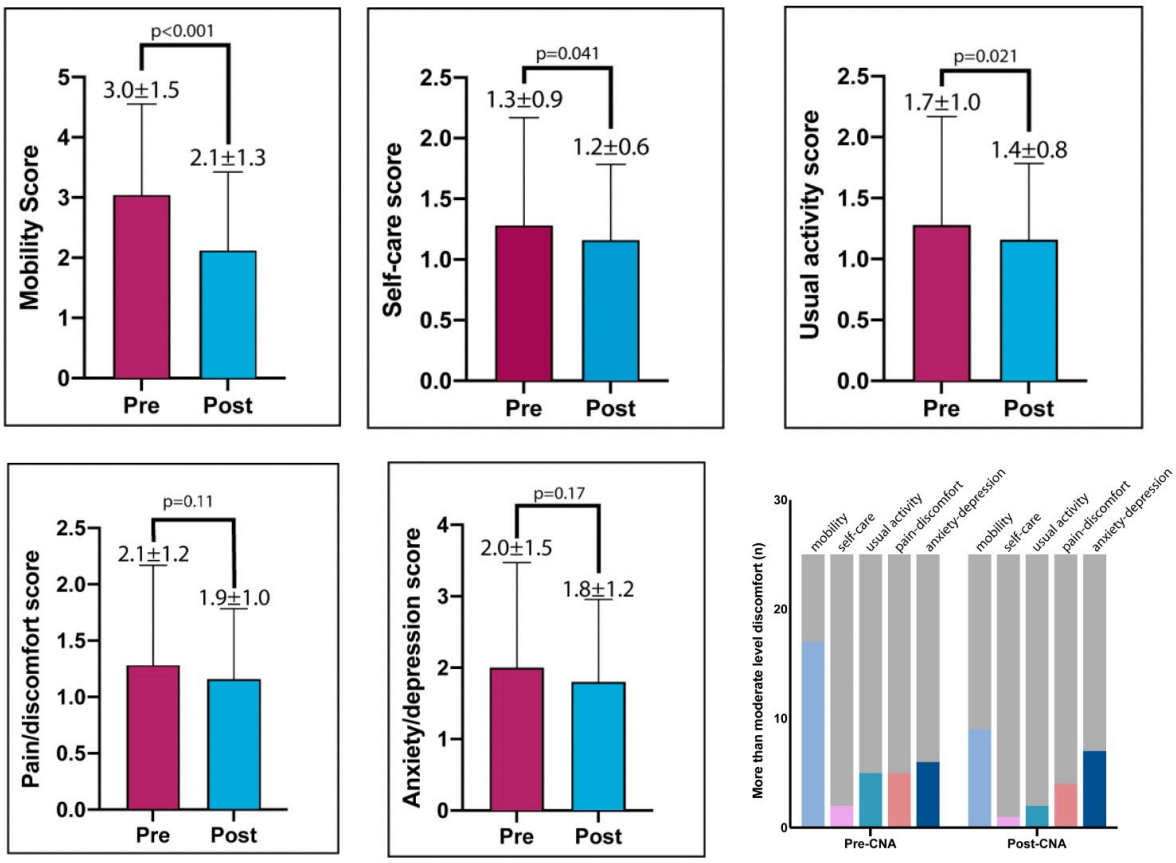


Figure-2. Changes in EQ-5D survey domain scores at 6-months follow-up

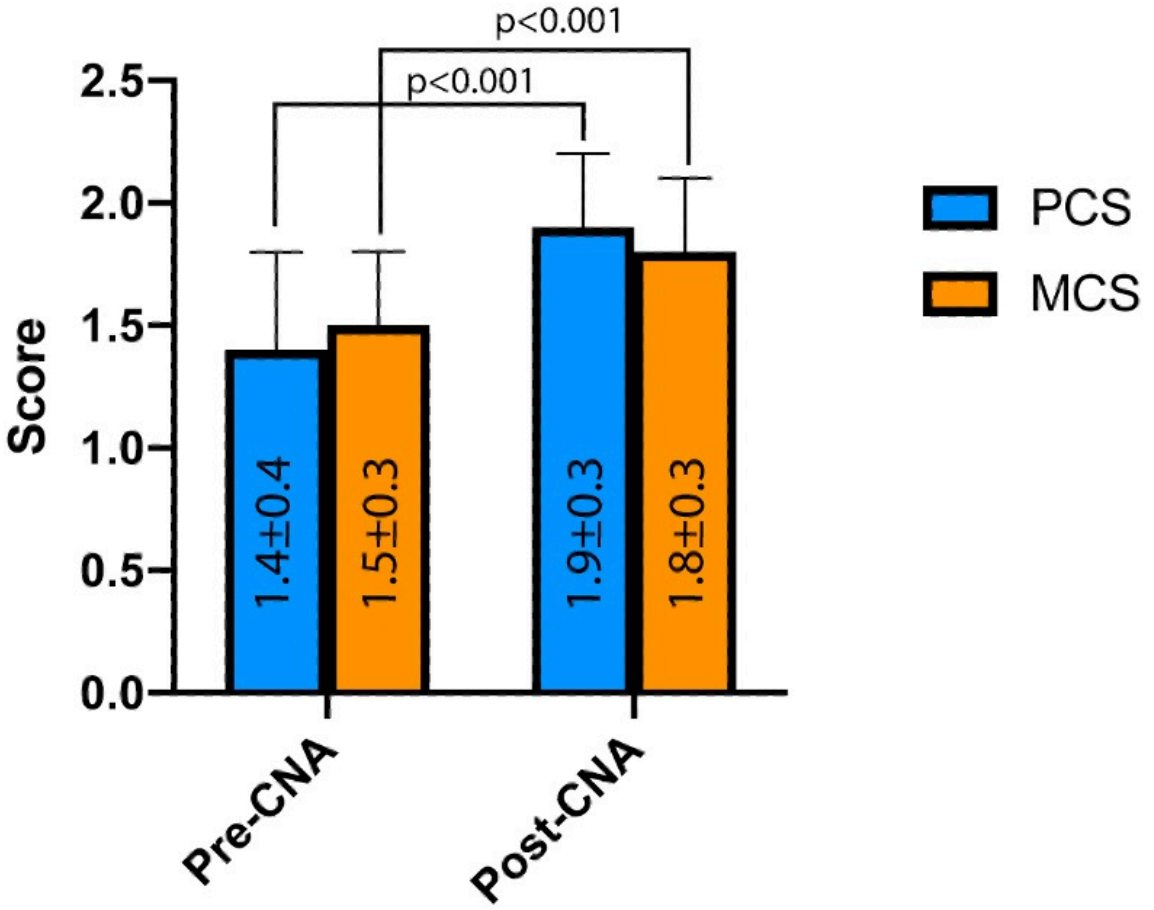


Figure 3. Changes in EQ-5D physical and mental component scores at 6-months follow-up

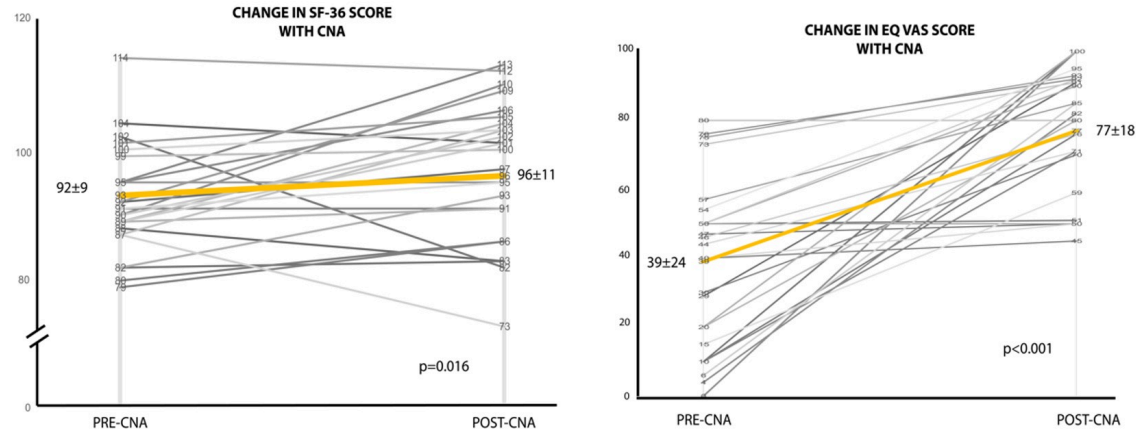


Figure 4. Change in quality of life assessed with A. SF-36 score, B. EQ-VAS score at 6 month follow-up compared with baseline.

ID: **84**

Topic: **Cardiology > Syncope**

Presentation Type: **Oral**

# CARDIONEUROABLATION IN A PREGNANT WOMAN WITH MALIGNANT VASOVAGAL SYNCOPE AND RECURRENT SPONTANEOUS ABORTIONS

**Tolga AKSU**[1], Sibel TEMUR[2], Ferit MUTLUER[2], Henry HUANG[3], Andre D'AVILA[4]

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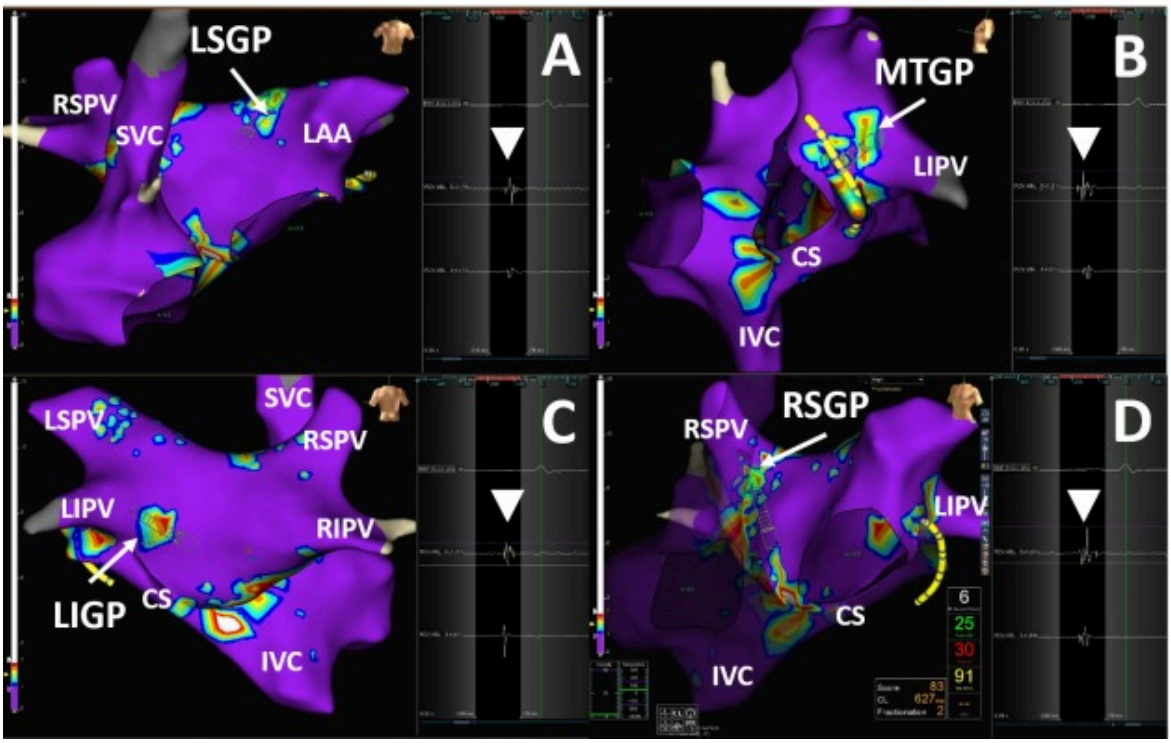
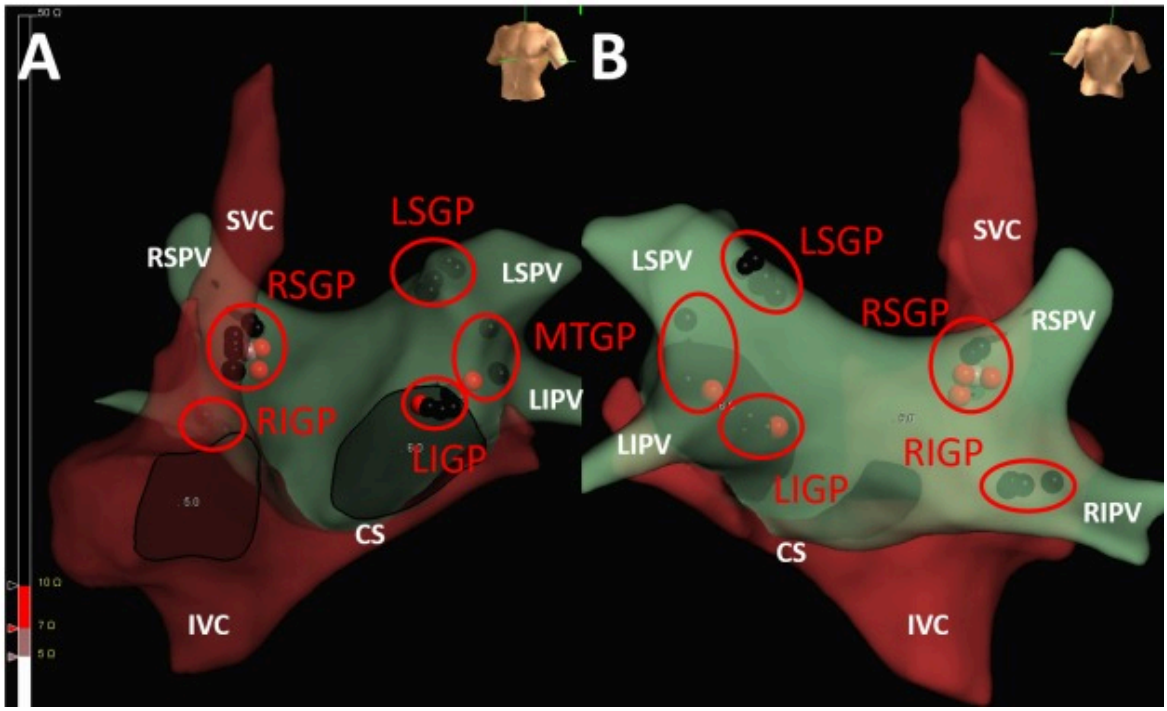
[3]*Rush Medical College, , United States*

[4]*Beth Israel Deaconess Medical Center, , United States*

Introduction: Although vasovagal syncope (VVS) is generally considered a benign entity, frequent episodes during pregnancy may present an inherent risk to both the mother and fetus in severe cases. We aimed to report a case of successful cardioneuroablation in a pregnant patient with recurrent VVS episodes and history of recurrent spontaneous abortions.
Methods: A 34-year-old pregnant woman with twins (9 weeks pregnant; G1P1, abortus two) was referred for recurrent VVS. A passive tilt table test showed cardioinhibitory response with 35 seconds of asystole which was thought to represent a substantial risk to fetal viability and development. Since two of her prior pregnancies had been surgically interrupted due to fetal bradycardia, a permanent pacemaker implantation was advised but refused by the patient and her family. Cardioneuroablation was discussed and ultimately performed.
Results: Under general anesthesia, 3D maping of the right and left atria was performed using a high-density mapping catheter. All major ganglionated plexus sites were detected and ablated based on presence of fractionated bipolar endocardial atrial electrograms and anatomical landmarks (Figure 1, 2).




Overall ablation and procedure times were 12.5 min and 158 min. Fluoroscopy was not utilized. The patient remained asymptomatic with successful caesarean section delivery of twins at 36 weeks.

Conclusion: In rare situations, VVS may require interventional treatments to prevent fetal and maternal adverse effects. Electroanatomical mapping-guided cardioneuroablation may be a feasible and valuable adjunctive therapy in pregnant patients with VVS.

ID: **282**

Topic: **Cardiology > Treatment of obesity and diet in cardiovascular disease**

Presentation Type: **Oral**

# EFFECTS OF OBESITY ON THE CHRONOTROPIC RESPONSES DURING PHYSICAL EXERCISE

**Ajar KOÇAK**

*Sincan State Hospital, Ankara, Turkey*

OBJECTIVE:

Chronotropic responses are crucial to increase cardiac output and fulfill the metabolic demands during physical exercise. Chronotropic incompetence is thought to be a predictor of cardiovascular diseases (CVD) and have a negative impact on person's quality of life. This study aimed to evaluate the effects of obesity on the chronotropic responses during physical exercise.

METHODS:

A total of 485 participants with no diagnosis of cardiovascular diseases (CVD) who had a negative treadmill exercise test were evaluated in this study. Participants were divided into two groups based on their body mass index (BMI): the obese group with BMI≥30 (n=239) and the non-obese group with BMI<30 (n=246). Results of the treadmill exercise test were analyzed. Changes in heart rate (HR) and systolic blood pressure (SBP) on rest and during peak exercise were recorded. The chronotropic index was calculated using the formula [(Maximal HR - Resting HR)/(Predicted maximal HR - Resting HR)]. During peak exercise, metabolic equivalents (METs) were measured in order to assess the participants' exercise capacity.

RESULTS:

Study participants had a mean age of 42,7±6.4 years and a mean BMI of 30,4±8.3 kg/m2. When compared to the non-obese group, the obese group's resting heart rate was significantly higher (80.1±6.2 vs 76.5±6.7, P<0.05). Contrarily, the obese group's heart rate was lower at peak exercise (138.6±12.4 vs 140.7±10.1, p=0.53). The obese group also had significantly higher SBP at rest (124.4±5.7 vs 117.8±6.4, P<0.05), but there was no significant difference between the two groups during maximal exercise (143.3±7.3 vs 142.7±7.4, p=0.39). On the other hand, the chronotropic index was significantly lower in the obese group (0.67±0.21 vs 0.76±0.19, P<0.05). Additionally, METs measurements revealed a lower exercise capacity in the obese group (8.91±5.29 vs 11.8±9.4, P<0.05).

CONCLUSIONS:

Although resting HR and SBP values were higher in obese participants compared to the non-obese group, no significant differences were observed between them during maximal exercise. Additionally, lower chronotropic index was observed in the obese group. According to these results, obese people show weaker exercise-induced chronotropic activation. In accordance with these findings, obesity-related reduced exercise capacity can be attributable to central factors as well as functional limitations in pulmonary and skeletal muscle performances.

Keywords: Chronotropic response, exercise, obesity

| **Variables** | **Obese (239)** | **Non-Obese (246)** | **P value** |
|---|---|---|---|
| **Chronotropic index (CI)** | 0.67 ± 0.21 | 0.76 ± 0.19 | P<0.05 |
| **Metabolic equivalents (METs)** | 8.91 ± 5.29 | 11.8 ± 9.4 | P<0.05 |
| **Heart rate (bpm)** | | | |
| Pre-exercise (Resting) | 80.1 ± 6.2 | 76.5 ± 6.7 | P<0.05 |
| During peak exercise | 138.6 ± 12.4 | 140.7 ± 10.1 | 0.53 |
| **Systolic blood pressure (mmHg)** | | | |
| Pre-exercise (Resting) | 124.4 ± 5.7 | 117.8 ± 6.4 | P<0.05 |
| During peak exercise | 143.3 ± 7.3 | 142.7 ± 7.4 | 0.39 |

## Oral Presentation Session

## Current Perspectives In Congenital Heart Surgery

## Date: 01.12.2022 Time: 13:15-14:15 Hall: 5

ID: **102**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# RESIDUAL PULMONARY VALVE DYSFUNCTION FOLLOWING REPAIR OF TETRALOGY OF FALLOT – IS STENOSIS BETTER THAN REGURGITATION?

**Gregory HEGER**, Julie CLEUZIOU, Cordula WOLF, Philipp HEINISCH, Jürgen HÖRER, Maria VON STUMM

*German Heart Center Munich, Munich, Germany*

**Residual Pulmonary Valve Dysfunction Following Repair Of Tetralogy Of Fallot – Is Stenosis Better Than Regurgitation?**

***Background***

Tetralogy of Fallot is the most frequent cyanotic heart disease. Residual pulmonary valve dysfunction such as a stenosis, a regurgitation, or a combination of both can be a complication after repair. The impact of postoperative residual pulmonary valve dysfunction on mid-term outcomes remains unclear. The aim of this study was to analyze the incidence of residual pulmonary valve dysfunction and to examine its impact on mid-term outcomes.

**Methods**

All patients who underwent repair of Tetralogy of Fallot between 2004 and 2022 were divided into 4 groups depending on the prevalent residual lesion: none, stenosis (>30mmHg), regurgitation (Grade III or IV) or combined. The study endpoints were mortality and a composite endpoint of catheter-based intervention and reoperation on the right ventricular outflow tract, pulmonary valve, and/or pulmonary artery main stem.

**Results**

Between 2004 and 2022 a total of 217 patients underwent Tetralogy of Fallot repair (mean age: 8 months, mean weight: 7,1kg). The mean follow-up time was 6 years. After repair, 160 patients (74%) showed a residual pulmonary valve dysfunction at hospital discharge. A predominant stenosis was present in 45 patients (21%), 68 patients (31%) showed a predominant regurgitation and 47 (22%) a combined dysfunction. The overall mortality was 2% (n=4). A total of 17 patients (8%) needed a reintervention and 8 (4%) needed a reoperation (Table 1). There was no significant difference in mortality between groups, however there was a significantly

higher number of reinterventions and reoperations in patients with a postoperative pulmonary valve dysfunction (p=0,001, Fig.1).

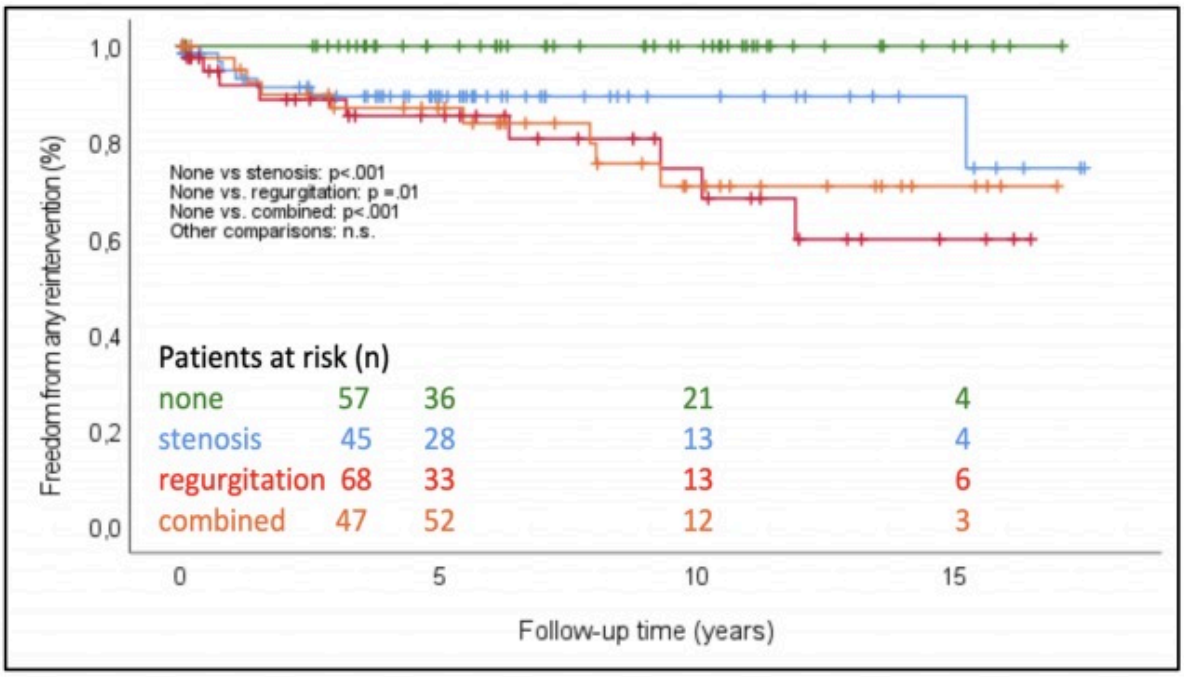



*Figure 1. Analysis on reoperation and reintervention*

| Outcomes | Overall (n=217) | *None (n=57)* | *Stenosis* (n=45) | *Regurgitation (n=68)* | *Combined (n=47)* |
|---|---|---|---|---|---|
| **Death** | 4 (2%) | 0 (0%) | 2 (4%) | 1 (2%) | 1 (2%) |
| **Re-operation** | 17 (8%) | 0 (0%) | 8 (18%) | 4 (6%) | 5 (11%) |
| **Re-intervention** | 8 (4%) | 0 (0%) | 1 (2%) | 3 (4%) | 4 (9%) |

*Table 1. Overview of outcomes*

**Conclusions**

Survival after repair of Tetralogy of Fallot is excellent. Although 74% of the patients showed a residual pulmonary valve dysfunction at time of discharge, only 16% required a reintervention or reoperation in the mid-term. However, the nature of the residual valve dysfunction does not influence the outcome.

ID: **103**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Oral**

# A COMPARATIVE STUDY OF NORWOOD OPERATION USING RIGHT VENTRICLE TO PULMONARY ARTERY SHUNT VERSUS BLALOCK TAUSSIG SHUNT

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[2]*King Faisal Specialist Hospital, Jeddah, Saudi Arabia*

Background: The Norwood operation is the mainstay of initial palliation for Hypoplastic Left Heart Syndrome and other single ventricle lesions with inadequate left side cardiac structures. We sought to present the evolution of the Norwood operation, practice changes, and outcomes over a 15-year period from a single institution in Saudi Arabia.
Methods: All patients between March 2005 and March 2020 who underwent the Norwood operation with the use of a Blalock Taussig shunt (BT group) or Right Ventricle to Pulmonary Artery shunt (Sano group), was included in the analysis. Operative mortality was analyzed with multivariable logistic regression. Long-term survival was studied by Cox proportional hazard survival analysis. Independent predictors of operative mortality, long-term survival, and transition to CPS, Fontan, and death were examined.
Results: One hundred and forty-five patients were included. The median age at the Norwood operation was 29 days (range: 2 – 344). The type of shunt in the initial Norwood operation was BT in 72 and Sano in 66. Five surgeons performed the operations with varied practice lengths. The number of Norwood operations performed annually, and the corresponding operative mortality changed over time from 4 cases in 2005 with 50% mortality to 15 cases in 2019 with 7% mortality. Over the study period, operative mortality was 32% (23/72) in the BT group and 27% (15/66) in the Sano group. Independent predictors of operative mortality were lower weight, and longer bypass time, with p-values of 0.026 and 0.014 respectively. Independent predictors of improved long-term survival were higher weight at operation, later time era (2013-2020 vs. 2005-2012) and shorter bypass time, with P-values of 0.0016 and 0.006, respectively. The multistate model revealed that lower-weight patients were more likely to undergo Sano vs. BT (p-value <0.001), and if BT was chosen they were more likely to die (p-value=0.027). The risk of death from a Norwood BT was also lower in the recent time era, HR=0.5, however, this did not reach statistical significance, p-value=0.15.
Conclusions: Improved outcomes of the Norwood operation are evident in the more recent time era and with more frequent utilization of the Sano shunt, especially in smaller weight patients. Late diagnosis or older age should not be considered a contraindication to the Norwood operation. The current outcomes of the Norwood operation warrant offering the treatment to most patients with hypoplastic left heart syndrome and similar lesions even with delayed diagnosis.

ID: **37**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Oral**

# SUCCESSFUL SURGICAL MANAGEMENT OF AORTOPULMONARY WINDOW AND SUPRAVALVULAR AND VALVULAR AORTIC STENOSIS IN A FIVE YEARS OLD CHILD

**Onur Barış DAYANIR**[1], Şebnem PAYTONCU[2], Mustafa KIR[3], Öztekin OTO[3]

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[2]*Manisa Şehir Hastanesi, Manise, Turkey*

[3]*Dokuz Eylül University Hospital, Izmir, Turkey*

Successful Surgical Management of Aortopulmonary Window and Supravalvular and Valvular Aortic Stenosis in a Five Years Old Child

OBJECTIVE:Aortopulmonary window (APW) is a rare congenital abnormality referring to a communication between the main pulmonary artery and ascending aorta.The recommended timing for the surgery, in common practice, is three months of age. In older patients, outcome is determined by pulmonary vascular resistance at time of surgical repair. In this report, we present our five years old patient who underwent a valvular and supravalvular aortic surgery and concomitantly closure of APW successfully.

METHODS:A five-year-old male child with echocardiographic diagnosis of supravalvular and valvular aortic stenosis at birth admitted to the hospital with mild short of breath on exertion. CT angiography revealed enlargement at the pulmonary artery at the conus level and a large APW (Figure 1). Pre-operative echocardiography showed a supravalvular aortic stenosis but no confirmation of APW

The patient underwent aortic open heart surgery with standard technique. The APW, which measured approximately 2.0-2.5 cm, was observed between the ascending aorta and the pulmonary artery. Post-operative echocardiography confirmed no residual shunt and no supravalvular gradient with normal mechanical aortic valve functions as well as surprisingly normal pulmonary artery pressure.

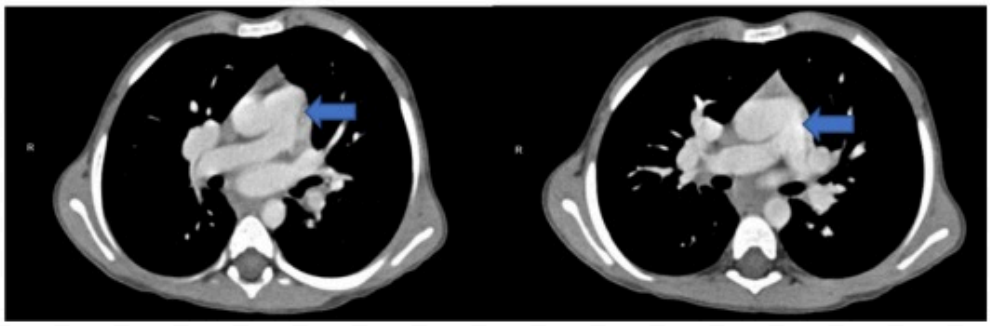

Figure 1: Aortopulmonary window CT angiography image from two different sections marked with a blue arrow.

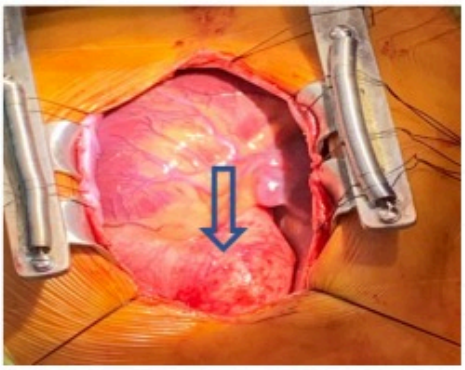

Figure 2: Blue arrow points to the connection between the aorta and the pulmonary artery.

RESULTS: APW is a developmental anomaly of the conotruncal septum and has an incidence of 0.2-0.6% among all congenital heart diseases.The survival of patients with APW depends on the defect size and the pulmonary vascular resistance. The ideal timing for repair of APW is in infancy before the development of irreversible pulmonary arterial hypertension. In this specific case, the defect went unnoticed until 5 years of age, and he could have survived until late childhood without active treatment. We decided to repair the defect based on preoperative pulmonary artery pressure measurement. The surgery was uneventful and the post-operative recovery successful. In the surgical treatment of multiple anomalies, APW closure is important because it reduces pulmonary artery pressure. Aortic stenosis and APW observed in our patient are examples of this situation

CONCLUSION:Aortopulmonary window can be treated surgically in early years of childhood. Surgical risk and indication of operation needs to be carefully considered regardless of the patient's age. Pulmonary hypertension is the most important parameter affecting the operation decision, postoperative course, and long-term results. Accompanying aortic stenosis with APW may be misleading in echocardiographic examination. Therefore, CT angiography is a useful method in the diagnosis phase. In addition, APW repair contributed positively to the postoperative course in the patient who required surgery due to aortic stenosis.

ID: **72**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Oral**

# ESTABLISHING REGIONAL MULTIDISCIPLINARY SINGLE-VENTRICLE CARE SYSTEM: RATIONALE, STRUCTURE AND INITIAL RESULTS

**Anton AVRAMENKO**[1], Nikolai SVECHKOV [2], Iulia SHARAFUTDINOVA[2], Sergey SHOROKHOV[2], Vladimir GORYACHEV[2]

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[2]*Samara Regional Clinical Cardiac Hospital, Samara, Russia*

Background. Long-term morbidity in patients with single-ventricle physiology remains disappointing despite significant progress in cardiology over last decades. Our vision is to improve quality of life and survival in single-ventricle patients by establishing the first in the country official multidisciplinary dedicated team and maintaining consistency of care.

Methods. After reviewing literature and adjusting the described methods to local peculiarities, we developed follow-up protocol. Protocol has a timeframe for each method and defines in which institution it needs to be done. Free-standing Cardiac hospital has dedicated team of cardiac surgeon, pediatric cardiologist, pediatric echo-specialist, interventionalist, electrophysiologist and radiologist. Multidisciplinary Children's hospital has dedicated pediatrician, pulmonologist, gastroenterologist and neurologist.
Each specialist was provided with the chart of most common related problems and recommended methods used to diagnose them, including comprehensive echo-protocol, cath-protocol and CT-imaging protocol. Dedicated out-patient clinic work once a week. Pediatric cardiologist decides if the patient is followed-up as per protocol, or needs additional evaluation.
Results. From 2005 till June 2022 in our institution, the only of its kind in the region with the population of 3.2 mill. People, 206 patients with different anatomical forms of single ventricle were managed. 81 of them had their Fontan circulation completed. Long-term complications after Fontan include: late deaths – 3; protein-losing enteropathy – 3, plastic bronchitis – 1, gastric ulcer – 2, bradycardia required pacemaker implantation – 6, left pulmonary artery stenosis required stenting – 4, veno-cameral and aopto-pulmonary collaterals required occlusion -5; ventricle dysfunction – 1.

Conclusions. Single-ventricle patients have various mid- and long-term complications, that requires life-long multidisciplinary follow-up.

ID: **73**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# SURGICAL OCCLUSION OF INTERNAL MAMMARY ARTERIES IN SINGLE-VENTRICLE PATIENTS

**Anton AVRAMENKO**[1], Nikolai SVECHKOV[2], Sergey SHOROKHOV[2], Temur KISLUKHIN[2]

[1]*Samara State Medical University, Samara, Russia*

[2]*Samara Regional Clinical Cardiac Hospital, Samara, Russia*

Background. Aorto-pulmonary collaterals from internal mammary arteries (IMA) are present in 20-40% of single-ventricle patients, and coil embolization is a common approach to eliminate them during pre-bidirectional Glenn or pre-Fontan catheterization. We present our experience in surgical occlusion of IMAs and collaterals, arising from them.

Methods. From 2005 till April 2020 we performed 111 biderectional Glenn procedures and 73 Fontan completions. None of the patients required AP collaterals' occlusion prior to bidirectional Glenn. In 6 patients endovascular occlusion of aorto-pulmonary (AP) collaterals was performed prior to Fontan, in one of these cases both IMAs became patent 3 months after initial occlusion.
In 2020 we performed 4 surgical occlusions of IMAs during bidirectionalal Glenn, and 2 – during Fontan procedures. In all cases bilateral dissection of IMAs was performed, intercostal branches were cauterized and – after applying vascular clips at the ostia – arteries were removed.
Results. All patients had uneventful recovery in terms of sternotomy healing or wound infection.
Conclusions. IMAs' occlusion can be performed surgically. It is safe and effective and does not influence postoperative healing of sternotomy even if performed bilaterally. It does not add cost to the procedure compared with coil/plug occlusion. Long-term consequences, however, need to be assessed.

ID: **133**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# SHORT-TERM OUTCOMES OF PULMONARY VALVE REPLACEMENT USING A NEW STENTED BIOPROSTHETIC VALVE

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OBJECTIVE: Efforts continue to develop bioprosthetic valve with better performance in terms of implantability, pressure gradients, regurgitation and thrombogenicity. Avalus™ (Medtronic, Minneapolis, MN, USA) valve is a newly developed, stented bovine pericardial bioprosthetic valve which has been proven safe and effective with good hemodynamic performance in aortic position. We used this valve for pulmonary valve replacement (PVR) in our patients. This study aims to evaluate short-term outcomes of PVR with Avalus™ valve.

METHODS: We performed a retrospective review of 13 consecutive patients (4 males and 9 females) undergoing PVR with the Avalus™ valve between June 2021 and June 2022.

Surgical indications of PVR were as follows: severe right ventricle to pulmonary artery conduit stenosis in 6, pulmonary valve (PV) stenosis in 3, PV insufficiency in 3 and absent PV in 1 of patients. In all patients, after PVR, the roof of the right ventricular outflow tract was closed with a bovine pericardial patch. Concomitant procedures were performed in 6 patients.

RESULTS: PVR was successfully performed in all patients. The mean age was 16.1±7.3 years. The overall duration of follow-up was 7.4 ± 2.5 months. The size of implanted valves was 27-mm in 11 and 25-mm in 2 patients. Postoperative echocardiographic assessment showed a mean transvalvular pressure gradient of 13.0 ± 3.4 mmHg (range: 18-5) at discharge, and 13.1 ± 3.7 mmHg (range: 18- 7) at last follow-up. The assessed grade of regurgitation at the same times were as follows: no regurgitation in 6 patient and minimal in 7 patients, while no regurgitation in 8 patient and minimal in 5 patients. All patient showed improvement in New York Heart Association functional class. There was no mortality, reintervention, paravalvular leak or any valve related complication.

CONCLUSIONS:

The Avalus™ valve in the pulmonary position demonstrates good implantability, hemodynamic performance and safety at short-term period. Further follow-up is necessary to evaluate its midterm to long-term outcomes.

ID: **48**

Topic: **Cardiovascular Surgery > Minimally invasive aortic valve surgery**

Presentation Type: **Oral**

# A MINIMAL INVASIVE APPROACH IN SUBAORTIC MEMBRANE SURGERY

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Introduction

Subaortic membrane (SAM) is an anatomical intracardiac anomaly that can cause subaortic stenosis and aortic regurgitation. The subaortic membrane is usually seen in childhood and accompanies congenital heart diseases. In later ages, it can be seen as an isolated lesion. SAM can cause left ventricular outflow tract (LVOT) obstruction and left ventricular hypertrophy. Subaortic membrane resection surgery is mostly performed with full median sternotomy. However, in recent years, minimally invasive techniques have become more preferred by some centers. The frequently preferred minimally invasive methods for the aortic region are right anterior thoracotomy and mini sternotomy.In this presentation, we explained the subaortic membrane resection surgery we performed with mini sternotomy.

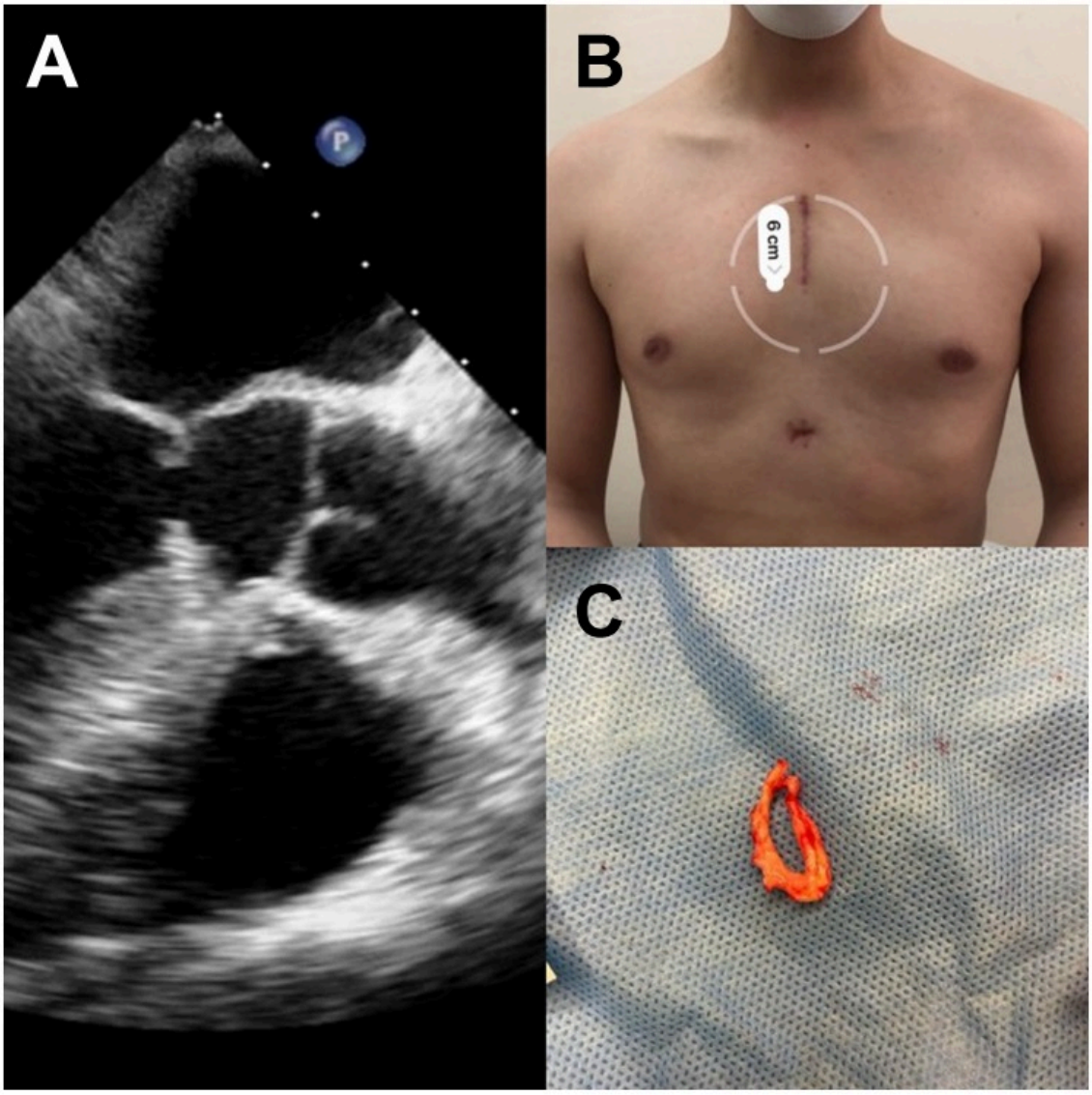
Case

A 36-year-old male patient applied to the emergency department with the complaint of palpitation; Membrane was detected 15 mm below the aortic valve in preoperative echocardiography. There was minimal aortic regurgitation. It was determined that Max.Gradient 129, Mean Gradient 78.

Peripheral cannulation was applied to the patient in the supine position by cannulation of the right femoral artery and vein. After a 6 cm skin incision on the sternum, partial upper hemisternotomy was performed. Cardiac arrest was achieved by administering cardioplegia after cross-clamping. Standard transverse aortotomy was performed and the fibrous membrane at the anterior of the aortic leaflets was resected and removed. Septal myotomy was performed. Cardiopulmonary bypass time was 46 minutes and cross-clamp time was 31 minutes. The total drainage of the patient, who was discharged from the intensive care unit on the first postoperative day, was 250 cc. There were no complications. He was discharged on the 5th day. Their gradients decreased significantly in their postoperative controls. (max.gradient 27 mean gradient 15 mmHg)

Conclusion

In our patient, choosing a minimally invasive method for subaortic membrane surgery resulted in less drainage, less postoperative pain, less risk of infection, faster mobilization, and faster recovery.




**The pictures pertaining to the patient. A:** Preoperative ECHO image, **B:** Postoperative photo, **C:** Peroperative photo

**Oral Presentation Session**

**Expected and Unexpected in Atrial Fibrillation Ablation**

**Date: 01.12.2022 Time: 14:00-15:00 Hall: 4**

ID: **167**

Topic: **Cardiology > Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **Oral**

# TRANSSEPTAL PUNCTURE AND CRYOBALLOON ABLATION OF ATRIAL FIBRILLATION IN PATIENTS WITH ATRIAL SEPTAL OCCLUDER OR ATRIAL SEPTAL DEFECT SURGICAL REPAIR: A SINGLE CENTRE EXPERIENCE

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Background: Atrial fibrillation (AF) is one of the common arrhythmias in congenital atrial septal defect (ASD) patients, and the risk of developing AF is higher than in the general population even after surgical repair or percutaneous closure. Cryoballoon ablation (CA) is a safe and efficient method for pulmonary vein isolation in the treatment of AF. Achieving left atrial (LA) access may be difficult in patients with atrial septal occluder (ASO) or surgical repair of ASD. The aim of this study was to share our experience with the efficacy and safety of transseptal puncture in CA in this subset of patients.

Methods: We retrieved our data about patients with ASO or surgical repair of ASD undergoing CB AF ablation procedure at our center between August 2019 and January 2022. All interventions were performed with uninterrupted oral anticoagulation and transesophageal echocardiography was performed on patients who were in AF on the day of the procedure. All TSPs were evaluated under fluoroscopic guidance and TEE if needed. Transthoracic echocardiography (TTE) was performed to detect residual interatrial shunt or device deformation on the day after the ablation procedure. Patients were followed up at the 1st week, 1st month, 3rd month, 6th month, 1st year with anamnesis, physical examination, 12-lead electrocardiogram and 24-hour rhythm holter if necessary.

Results: Eight patients (age 44.50±10.86 years) with AF (5 paroxysmal and 3 persistent) and ASO or surgical repair of ASD were enrolled. Baseline characteristics of study population are summarized in Table 1. Two patients had 28 mm Amplatzer ASO device which occupied the whole septum and direct puncture through the ASO was performed. Sequential balloon dilatation was performed in three of eight patients (37.5%). TEE was required during transseptal puncture in only one of the 6 patients who had undergone previous surgical ASD repair. All patients underwent pulmonary vein isolation using cryoballoon inserted through a 12-F steerable

sheath over a 20-mm diameter inner lumen mapping catheter and 28-mm balloon was applied. Baseline clinical and procedural data of the 8 patients are summarized in Tables 2&3. No shunt at atrial level was detected by transthoracic echocardiography at 1 year follow-up. During a follow-up of 1 year, sinus rhythm was maintained in 5 of 8 patients. No severe complications were observed.

Conclusion: In patients with ASO or surgical repair of ASD, CA of AF may be feasible, safe, and effective. The balloon dilatation technique can facilitate transseptal access through the ASO or surgically repaired thickened interatrial septum.

**Table 1. Baseline Characteristics and Laboratory Findings**

| Variables | (n=8) |
|---|---|
| **Baseline characteristics** | |
| Age (years), mean (SD) | 44.50±10.86 |
| Gender (female), n (%) | 4 (50.0%) |
| Diabetes Mellitus, n (%) | 1 (12.5%) |
| Hypertension, n (%) | 1 (12.5%) |
| Current Smoker, n (%) | 1 (12.5%) |
| Body Mass Index (kg/m$^2$) | 26.50±4.77 |
| Atrial Fibrillation Type (paroxysmal), n (%) | 5 (62.5%) |
| Left Ventricular Ejection Fraction (%) | 56.25±11.87 |
| Left Atrial Diameter (mm), mean (SD) | 50.252±3.32 |
| CHADVASC Score, mean (SD) | 1.25±1.38 |
| HASBLED Score, mean (SD) | 0.38±0.51 |
| **Laboratory Findings** | |
| Creatinine (mg/dl; SD) | 0.87±0.13 |
| WBC (x10$^3$ /µL; SD) | 7.63±1.50 |
| Neutrophil (x10$^3$ /µL; SD) | 4.40±1.15 |
| Lymphocyte (x10$^3$ /µL; SD) | 2.41±0.68 |
| Hemoglobin (g/dL; SD) | 14.46±1.47 |
| Platelets (x10$^3$ /µL; SD) | 240.50±65.23 |
| ALT(U/L) | 22.91±7.54 |
| AST (U/L) | 19.63±6.57 |
| **Medications** | |
| Clopidogrel, n (%) | 1 (12.5%) |
| NOAC, n (%) | 7 (87.5%) |
| Warfarin, n (%) | 1 (12.5%) |

*Continues variables are reported (mean±SD). Categorical variables are reported n (%).
**Abbreviations:** ALT; Alanine transaminase, AST; Aspartate transaminase, NOAC; Novel oral anticoagulants, WBC; White Blood Cell.

**Table 2: Baseline clinical and procedural data of the patients with ASO**

| No | Sex | Age | AF Type | Occluder Type | LAD (mm) | Preoperative LVEF (%) | AF Recurrence in 3 months | AF Recurrence in 6 months | AF Recurrence in 1 year | LVEF at 1st Year (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | M | 30 | PAF | Amplatzer | 34 | 65 | + | - | - | 65 |
| 2 | F | 59 | Pers | Amplatzer | 48 | 30 | - | - | - | **50** |

**Abbreviations:** AF; Atrial fibrillation, LAD; Left atrial diameter, LVEF; Left ventricular ejection fraction, PAF; Paroxysmal atrial fibrillation, PERS; Persistent atrial fibrillation.

**Table 3: Baseline clinical and procedural data of the patients with surgical repair of ASD**

| No | Sex | Age | AF Type | TEE During TP | Baloon Dilatation During TP | LAD (mm) | Preoperative LVEF (%) | AF Recurrence in 3 Months | AF Recurrence in 6 Months | AF Recurrence in 1 Year | LVEF at 1st Year (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F | 48 | PAF | - | - | 49 | 65 | - | - | - | 65 |
| 2 | M | 42 | PAF | - | - | 45 | 65 | - | - | - | 65 |
| 3 | M | 31 | Pers | + | - | 53 | 50 | - | + | + | **60** |
| 4 | F | 51 | Pers | - | + | 48 | 60 | + | + | + | 60 |
| 5 | F | 39 | PAF | - | - | 54 | 55 | - | - | + | 55 |
| 6 | M | 56 | PAF | - | - | 48 | 60 | - | - | - | 60 |

**Abbreviations:** AF; Atrial fibrillation, LAD; Left atrial diameter, LVEF; Left ventricular ejection fraction, PAF; Paroxysmal atrial fibrillation, PERS; Persistent atrial fibrillation, TEE; Transesophageal echocardiography, TP; transseptal puncture.

ID: **244**

Topic: **Cardiology > Management of atrial fibrillation**

Presentation Type: **Oral**

# THE RELATIONSHIP BETWEEN ATRIA SCORE AND CRP/ALBUMIN RATIO IN PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION

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Background: Atrial fibrillation (AF) is the most common arrhythmia in the adult population and causes a significant increase in the risk of thromboembolism. The ATRIA risk scoring system was developed to assess the risk of thromboembolism in AF patients. In our study, we aimed to investigate the relationship between the ATRIA risk score and the C-reactive peptide (CRP)/Albumin ratio in patients with AF.

Materials and Methods: 240 patients with non-valvular permanent AF between December 2015 and December 2021 were included in our study. ATRIA scores were calculated by retrospectively scanning the clinical information and examination results of the patients from the hospital information system.

Results: 240 patients were included in the study. The mean age of the patients was 67.35±9.5, and 42.9% were male. 27.9% of the patients had diabetes mellitus, 44.2% had hypertension, 24.2% had hyperlipidemia and 32.1% had coronary artery disease. According to the ATRIA score, the high-risk group was found to have higher glucose, creatinine, CRP and CRP/Albumin ratios. In the correlation analysis, a positive correlation was found between the ATRIA score and the CRP/Albumin ratio ($r=0.687$; $p=0.001$). In multivariate logistic regression analysis, age, CRP/Albumin ratio, diabetes, and hypertension were found to be independent predictors of the ATRIA score. In Roc analysis, the area under the curve was found to be 0.964 for the CRP/Albumin ratio (0.941-0.988, $p<0.001$), the cutoff value for which the CRP/Albumin ratio predicted a high ATRIA score was 0.093 with a sensitivity of 93.8% and a specificity of 93.1%.

Conclusion: CRP and albumin levels are parameters that can be easily measured in the blood. In our study, it was found that the CRP/Albumin ratio correlated with the ATRIA risk score. In patients with AF, the CRP/Albumin ratio can be used to predict a high ATRIA risk score.

Keywords: Atrial fibrillation, thromboembolism risk, ATRIA score, CRP/albümin ratio

ID: **152**

Topic: **Cardiology > Transcatheter ablation for tachyarrhythmias - Atrial fibrillation**

Presentation Type: **Oral**

# EVALUATION OF GASTROPARESIS AFTER RADIOFREQUENCY CATHETER ABLATION OF ATRIAL FIBRILLATION

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**Objective:** Gastroparesis-related symptoms are common after catheter ablation of atrial fibrillation (AF). The actual incidence is not known since most cases are subclinical. In the present study, patients were evaluated in terms of gastroparesis after AF ablation using the Gastroparesis Cardinal Symptom Index (GCSI) scale.

**Methods**: 85 consecutive patients (age 59 years, 57 women [67%]) with paroxysmal AF whom submitted for catheter ablation were included this cross sectional study (Table 1). Radiofrequency Catheter Ablation Procedure was applied to all patients. The study population was evaluated by GCSI score at baseline and after 1 month of follow-up after catheter ablation. GCSI score was determined by averaging the mean score of 3 sub-scales: postprandial fullness/early satiety (4 items), nausea/vomiting (3 items), and bloating (2 items).

**Results:** the GCSI total score was 0.6 at baseline and 0.8 at the 1-month follow-up visit after ablation ($p$<0,001). Mean GCSI scores varied significantly by severity of vomiting ($p < 0.001$), nausea ($p < 0.016$), stomach fullness ($p < 0.001$), not able to finish meal and feeling full after meals ($p < 0.001$). Recurrence of AF developed in 19% (16 of 85) of patients at one-year follow-up. The study population was divided into 2 subgroups according to the presence of AF recurrence. A statistically significant increase was observed in GCSI score after ablation in both groups (Table 2 and Table 3).

**Conclusions**: The findings of the present study showed that treatment of AF with ablation resulted in a statistically significant increase in gastroparesis symptoms independent of recurrence. The present study suggested that the GCSI scale may be a cost-saving screening test for rapid diagnosis and proper treatment.

Table 1. Baseline demographic and clinical findings of the study population

| **Variables** | **All population n=85** | **Non-recurrence n=69** | **Recurrence n=16** | **p** |
|---|---|---|---|---|
| Age, years | 58,9±10,8 | 58,3±10,4 | 61,3±12,5 | 0,316 |
| Gender, n (%)<br>Male<br>Female | 28(32,9)<br>57(67,1) | 23(33,3)<br>46(66,7) | 5(31,3)<br>11(68,8) | 0,999 |
| Weight | 83,1±15,3 | 82,7±15,4 | 84,8±15,4 | 0,615 |
| Heihgt | 161,1±9,0 | 161,4±9,1 | 159,6±8,8 | 0,454 |
| Body mass index | 32,2±6,3 | 31,9±6,5 | 33,3±5,6 | 0,412 |

| | | | | |
|---|---|---|---|---|
| Diabetes mellitus, n (%) | 22(25,9) | 15(21,7) | 7(43,8) | 0,135 |
| Hypertension, n (%) | 45(52,9) | 36(52,2) | 9(56,3) | 0,987 |
| HASBLEED score | 1(0-3) | 1(0-3) | 1,5(0-3) | 0,184 |
| CHADVASC score | 2(0-6) | 2(0-6) | 2,5(0-6) | 0,133 |
| Hb1c value (%) | 6,3±1,2 | 6,2±1,0 | 7,0±1,7 | 0,073 |
| High sensitive C-reactive proteine | 1,1(0,2-7,6) | 1(0,2-3,5) | 2,4(0,5-7,6) | **0,002*** |
| Sedimentation | 18(3-69) | 17(3-69) | 22(6-56) | 0,15 |
| White blood cell | 7146,5±1834,7 | 7195,7±1891,7 | 6934,4±1602,6 | 0,611 |
| Hemoglobin | 13,4±1,6 | 13,5±1,6 | 13,1±1,4 | 0,334 |
| Neutrophil | 4426,5±1485,3 | 4435,4±1549,8 | 4388,1±1209,7 | 0,91 |
| Lenfosit | 2088,8±621,9 | 2122,6±630 | 1943,1±581,7 | 0,301 |
| Neutrophil/lenfosit | 2(0,9-8,7) | 2(0,9-8,7) | 2(1,4-5,9) | 0,431 |
| Thyroid stimulating hormone (TSH) | 1,5(0-9,6) | 1,4(0-9,6) | 1,8(0,4-9,2) | 0,443 |
| Total kolesterol | 185,9±41,2 | 188,6±41,9 | 174,5±37,5 | 0,222 |
| Triglycerides | 152,2±73,8 | 148±73,4 | 169,6±75,2 | 0,295 |
| Low density lipoprotein | 110,4±36,1 | 112,1±36,9 | 103,2±32,8 | 0,376 |
| High density lipoprotein | 46,6±10,1 | 47,1±10,4 | 44,5±9 | 0,62 |
| Brain natriüretic peptit | 64(10-776) | 62(10-776) | 67(26-752) | 0,493 |
| Interventricular septal diameter | 1(0,7-8,5) | 1(0,7-8,5) | 1(0,9-1,4) | 0,888 |
| Posterior wall diameter | 1(0,7-7) | 1(0,7-7) | 1(0,9-1,3) | 0,891 |
| Left ventricle end-diastolic diameter | 46,1±3,4 | 46±3,4 | 46,8±3,3 | 0,367 |
| Left ventricle end-sistolic diameter | 31,2±4,1 | 31,3±4,3 | 31±3,3 | 0,791 |
| Left ventricle ejection fraction | 59,3±4,2 | 59,5±4,2 | 58,3±4,3 | 0,302 |
| E-wave | 8,3±2 | 8,3±1,9 | 8,7±2,5 | 0,467 |
| A-wave | 6(0,9-11) | 6(3-11) | 6(0,9-10) | 0,999 |
| E/A | 1,3(0,7-15,1) | 1,3(0,7-4) | 1,3(0,8-15,1) | 0,924 |
| Left atrial volume index | 27,5±7,4 | 26,3±6,8 | 32,7±8,1 | **0,002*** |
| Therapy, n(%) | | | | |
| anticoagülation | 61(71,8) | 48(69,6) | 13(81,3) | 0,53 |
| Antiaritmic | 41(48,2) | 31(44,9) | 10(62,5) | 0,27 |
| Beta-bloker | 56(65,9) | 43(62,3) | 13(81,3) | 0,252 |
| Calcium canal bloker | 22(25,9) | 18(26,1) | 4(25,0) | 0,999 |
| Anjiotencion inhibitör and receptör bloker | 37(43,5) | 30(43,5) | 7(43,8) | 0,999 |
| Scopy time (min) | 12(6-25) | 12(6-25) | 11,8(7-18) | 0,55 |
| Ablation technique, n(%) | | | | |
| Pulmonary ven isolation (PVI) | 74(87,1) | 60(87,0) | 14(87,5) | 0,74 |
| PVI + posterior wall isolation | 11(12,9) | 9(13,0) | 2(12,5) | 0,999 |
| Procedure time (min) | 97,1±19,1 | 97,7±19,4 | 94,6±18,1 | 0,567 |

Numerical variables showing normal distribution were shown as mean±SD, and numerical variables not showing normal distribution were shown as median (min-max).

Categorical variables were shown as numbers(%).

*p<0.05 indicates statistical significance.

Tablo 2. Gastroparesis Cardinal Symptom changes before and after ablation

| Variables | All population n=85 | | |
|---|---|---|---|
| Pre-ablation | Post-ablation | P | |

| | | | |
|---|---|---|---|
| Gastroparesis Cardinal Symptom Index | 0,6(0-1,4) | 0,8(0-2,0) | **<0,001*** |
| Nausea, n(%) | | | |
| None | 70(82,4) | 56(65,9) | **0,016*** |
| Very mild | 15(17,6) | 29(34,1) | |
| Gagging, n(%) | | | |
| None | 65(76,5) | 77(90,6) | 0,083 |
| Very mild | 20(23,5) | 5(5,9) | |
| mild | - | 3(3,5) | |
| Vomiting, n(%) | | | |
| None | 85(100,0) | 76(89,4) | **<0,001*** |
| Very mild | - | 9(10,6) | |
| Stomach fullness, n(%) | | | |
| None | 16(18,8) | 3(3,5) | **<0,001*** |
| Very mild | 47(55,3) | 28(32,9) | |
| Mild | 21(24,7) | 27(31,8) | |
| Moderate | 1(1,2) | 24(28,2) | |
| Severe | - | 3(3,5) | |
| Not able to finish meal, n(%) | | | |
| None | 76(89,4) | 11(12,9) | **<0,001*** |
| Very Mild | 8(9,4) | 46(54,1) | |
| Mild | 1(1,2) | 26(30,6) | |
| Moderate | - | 1(1,2) | |
| Severe | - | 1(1,2) | |
| Feeling full after meals, n(%) | | | |
| None | 11(12,9) | 9(10,6) | **<0,001*** |
| Very mild | 47(55,3) | 21(24,7) | |
| Mild | 15(17,6) | 42(49,4) | |
| Moderate | 11(12,9) | 8(9,4) | |
| Severe | 1(1,2) | 5(5,9) | |
| Loss of appetite, n(%) | | | |
| None | 11(12,9) | 15(17,6) | 0,577 |
| Very mild | 56(65,9) | 52(61,2) | |
| Mild | 18(21,2) | 17(20,0) | |
| Moderate | - | 1(1,2) | |
| Bloating, n(%) | | | |
| None | 24(28,2) | 15(17,6) | 0,093 |
| Very mild | 31(36,5) | 61(71,8) | |
| Mild | 28(32,9) | 6(7,1) | |
| Moderate | 2(2,4) | 3(3,5) | |
| Belly or stomach visibly larger, n(%) | | | |
| None | 72(84,7) | 72(84,7) | 0,480 |
| Very Mild | 12(14,1) | 12(14,1) | |
| Mild | 1(1,2) | 1(1,2) | |

Since the index and its subgroups do not show normal distribution, they are shown as median (min-max). Categorical variables were shown as numbers(%).

*p<0.05 indicates statistical significance.

Tablo 3. Gastroparesis Cardinal Symptom findings according to the presence of atrial fibrillation recurrence

| Variables | Non-recurrence n=69 | | Recurrence n=16 | | | | | |
|---|---|---|---|---|---|---|---|---|
| pre-ablation | post-ablation | | pre-ablation | post-ablation | p1 | p2 | p3 | p4 |
| Gastroparesis Cardinal Symptom Index | 0,5 (0-1,4) | | 0,8 (0-1,9) | 0,8 (0,3-1,1) | 0,9 (0,5-1,8) | **0,045*** | **0,006*** | **<0,001*** | **0,002*** |
| Nausea, n(%) | | | | | | | | | |
| None<br>Very mild | 57(82,6)12(17,4) | | 47(68,1)22(31,9) | 13(81,3)3(18,8) | 9(56,3)7(43,8) | 0,999 | 0,542 | 0,068 | **0,046*** |
| Gagging, n(%) | | | | | | | | | |
| None<br>Very mild<br>mild | 52(75,4)17(24,6)<br>- | | 63(91,3)3(4,3)3(4,3) | 13(81,3)3(18,8)<br>- | 14(87,5)2(12,5)<br>- | 0,863 | 0,306 | 0,102 | 0,564 |
| Vomiting, n(%) | | | | | | | | | |
| None<br>Very mild | 62(89,9)7(10,1) | | 69(100,0)- | 14(87,5)2(12,5) | 16(100,0)- | 0,999 | - | **0,008*** | 0,157 |
| Stomach fullness, n(%) | | | | | | | | | |
| None<br>Very mild<br>Mild<br>Moderate<br>Severe | 16(23,2)38(55,1)14(20,3)1(1,4)<br>- | | 3(4,3)27(39,1)20(29,0)16(23,2)3(4,3) | -<br>9(56,3)7(43,8)<br>-<br>- | -<br>1(6,3)7(43,8)8(50,0)<br>- | **0,050*** | **0,038*** | **<0,001*** | **0,001*** |
| Not able to finish meal, n(%) | | | | | | | | | |
| None<br>Very<br>MildMild<br>ModerateSevere | 61(88,4)7(10,1)1(1,4)<br>-<br>- | | 11(15,9)38(55,1)18(26,1)1(1,4)1(1,4) | 15(93,8)1(6,3)<br>-<br>-<br>- | -<br>8(50,0)8(50,0)<br>-<br>- | 0,999 | 0,232 | **<0,001*** | **<0,001*** |
| Feeling full after meals, n(%) | | | | | | | | | |
| None<br>Very<br>mildMild<br>ModerateSevere | 11(15,9)39(56,5)10(14,5)8(11,6)1(1,4) | | 9(13,0)19(27,5)33(47,8)3(4,3)5(7,2) | -<br>8(50,0)5(31,3)3(18,8)<br>- | -<br>2(12,5)9(56,3)5(31,3)<br>- | 0,210 | **0,013*** | **<0,001*** | 0,059 |
| Loss of appetite, n(%) | | | | | | | | | |
| None<br>Very<br>mildMild<br>Moderate | 11(15,9)43(62,3)15(21,7)<br>- | | 15(21,7)39(56,5)14(20,3)1(1,4) | -<br>13(81,3)3(18,8)<br>- | -<br>13(81,3)3(18,8)<br>- | 0,210 | 0,133 | 0,532 | 0,999 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bloating, n(%) | | | | | | | | |
| None<br>Very mildMildModerate | 22(31,9)25(36,2)21(30,4)1(1,4) | 15(21,7)47(68,1)6(8,7)1(1,4) | 2(12,5)6(37,5)7(43,8)1(6,3) | -14(87,5)-2(12,5) | 0,231 | **0,020*** | 0,170 | 0,317 |
| Belly or stomach visibly larger, n(%) | | | | | 0,280 | 0,354 | 0,999 | 0,157 |
| None<br>Very MildMild | 59(85,5)10(14,5)- | 61(88,4)6(8,7)2(2,9) | 13(81,3)2(12,5)1(6,3) | 15(93,8)-1(6,3) | | | | |

Since the index and its subgroups do not show normal distribution, they are shown as median (min-max). Categorical variables were shown as numbers(%).

*p<0.05 indicates statistical significance

P1: Pre-ablation, Non-recurrence vs recurrence

P2: Post-ablation, Non-recurrence vs recurrence

P3: Non-recurrence, Pre-ablation vs post-ablation

P4: Recurrence, Pre-ablation vs post-ablation

ID: **117**

Topic: **Cardiovascular Surgery > Surgical treatment of AF**

Presentation Type: **Oral**

# FIRST-LINE TREATMENT OF DRUG-REFRACTORY PERSISTENT ATRIAL FIBRILLATION: BALLOON CRYOABLATION OR THORACOSCOPIC ABLATION?

**Viktor VAYKIN**, Michail RIAZANOV, Alishir GAMZAEV, Dmitrii ZHILTSOV, George BOLSHUHIN, Nikita KONOVALOV, Anton MAXIMOV, Nikolai SHIBANOV

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Background: The number of patients with persistent atrial fibrillation is increasing. What operation is better to offer them? The aim of the study was to compare in-hospital and mid-term results of balloon cryoablation and thoracoscopic epicardial ablation in persistent atrial fibrillation treatment.

Methods: Two groups of patients were studied. The first group (G1) included 76 patients who underwent balloon cryoablation, the second one (G2) included 127 patients who underwent thoracoscopic ablation. G1 did not include patients with a duration of persistent AF more than 8 months and with left atrial diameter>4.5 cm. G2 had no restrictions on the timing of the occurrence of atrial fibrillation and the size of left atrium. Other characteristics: age, sex, BMI did not significantly differ in both groups. 24-Holter ECG monitoring was performed after 3, 6, and 12 months and annually thereafter.

Results: One patient from G1 was discharged with atrial fibrillation, the rest with sinus rhythm. All patients in G2 were discharged with sinus rhythm. In-hospital stay was 3±1 days in G1 and 6±2 days in G2. In G1 one patient (1,3%) had cardiac tamponade that required pericardial puncture and 2 (2,6%) patients had hematomas of the lower extremities treated conservatively. Among the most significant complications in G2 were 2 (1,6%) cases of sinoatrial block that required pacemaker implantation, 2 (1,6%) relaxation of the right dome of the diaphragm and 23 (18,1%) cases of atrial flutter, stopped by catheter ablation of the cavatricuspid isthmus. In G1 sinus rhythm after 3, 6, 12 months was observed in 60 (78,9%), 54 (71%), 45 (59,2%) patients accordingly. After thoracoscopic ablation 117 (92,1%), 111 (87,4%), 105 (82,7%) patients had a sinus rhythm after 3, 6 and 12 months, respectively. Perioperative and follow-up mortality was 0 in each group.

Conclusion: The number of complications in both groups is small and they did not significantly affect the rehabilitation of patients. Thoracoscopic ablation showed higher efficacy in the treatment of persistent atrial fibrillation, however balloon cryoablation provides acceptable medium-term results, less surgical trauma and hospital stay. On the one hand, we have a highly effective thoracoscopic ablation, on the other hand, cryoablation shows good results in a certain group of patients and is less traumatic.

ID: **160**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# INCIDENCE OF ATRIAL FIBRILLATION AFTER CORONARY ARTERY SURGERY AND THE RISK FACTORS

**Mehdi ZENGIN**[1], Azmi ÖZLER[2]

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[2]*Memorial Ataşehir Hospital, İstanbul, Turkey*

Objective: Atrial fibrillation (AF) is a common complication after coronary surgery, with a incidence varies between 5% and 40%. Prolongation of hospital stay, increase in the prevalence of stroke and hemodynamic instability, especially in patients with poor left ventricular dysfunction are the main issues. Therefore, studies are continuing to determine pharmacological treatment of arrhythmia and other strategies to reduce the incidence of postoperative atrial fibrillation developing after coronary surgery. In this study we aimed to determine the incidence and the risk factors affecting atrial fibrillation after coronary surgery, which was carried out jointly in Kosuyolu Hearth and Research Hospital and Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital.

Material Method: Coronary artery bypass grafting operation was performed on 648 patients in Koşuyolu Heart and Research hospital. Valve replacement, concomitant operations, reoperations, and all emergency operations were excluded and 336 patients who underwent cardiopulmonary bypass under elective conditions were included in the study.

Results: The mean age of the patients was 55.7 ± 9.4 years. The most common comorbidity was Chronic Obstructive Pulmonary disease (39,7%). Left ventricular dysfuntion (39,2%), Hypertension (19,9%), Diabetes mellitus (19,7%) and chronic renal dysfuntion (18,4%) were other comorbid diseases respectively. Postoperative AF insidance was 10.4% (n=51) and advanced age was the only factor affecting this incidence. AF was observed most frequently on the second day and sinus rhythm was achieved in an average of 5 days.

Conclusion: Despite the advances in coronary surgery today, the increase in the average age of patients causes the incidence of postoperative atrial fibrillation to remain high. Therefore, identifying high-risk patients and initiating prophylactic treatment in these patients will reduce morbidity and mortality in the postoperative period.

ID: **140**

Topic: **Cardiology > Management of atrial fibrillation**

Presentation Type: **Oral**

# EFFECTS OF DIRECT ORAL ANTICOAGULANT USE ON HEMOGRAM PARAMETERS

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[2]*Lokman Hekim Hospital, Ankara, Turkey*

Objective: There are reports of thrombocytopenia directly associated with oral anticoagulants in the literature. In our study, we aimed to investigate the effects of these drugs on hemogram parameters in patients using direct oral anticoagulants to prevent stroke in atrial fibrillation.

Methods: The study was designed as two-center and retrospective. Hemogram parameters of the patients at 0, 3, and 6 months were evaluated. In the study, 62 patients were using apixaban (50 patients 5 mg, 12 patients 2.5 mg twice daily), 60 were using edoxaban (49 patients 60 mg, 11 patients 30 mg once daily), and 48 were using rivaroxaban (41 patients 20 mg, 7 patients 15 mg once daily). The patients were compared according to the dose adjusted to the glomerular filtration rate. In addition, the values of each drug at 0, 3, and 6 months and the values of each drug with the other drug at 0, 3, and 6 months were compared. In the demographic characteristics, there was no significant difference in patients using apixaban 5 mg compared to patients using rivaroxaban 20, except that the incidence of diabetes was higher (p=0.020).

Results: There was no significant difference between the 0th, 3rd and 6th months of apixaban, edoxaban, and rivaroxaban doses (p>0.05). Significant differences were obtained in the mean corpuscular hemoglobin concentration(MCHC), platelet(PLT), and the volume occupied by platelets in the blood as a percentage(PCT) values for optimal doses of the drugs and also in the mean platelet volume(MPV) values for the corrected renal doses in the 0th, 3rd, and 6th month comparisons. In addition, there were a significant difference between 0 and 3 months in red cell distribution width(RDW) values at optimal doses and between 3 and 6 months in basophil and basophil-percentage values (all p values <0,05).

Conclusion: In our study, the differences between MCHC, PLT, PCT, and MPV values starting from the 0th month and continuing this difference in the 3rd and 6th months may not make sense. However, as mentioned above, these differences' subsequent occurrence or disappearance may be significant, like in RDW and basophil values. Whether these differences are clinically important can be investigated in more detail with national or international study plans in which more line numbers are taken on the subject. Our study thought it would contribute to the literature because of the examination of long-term follow-ups and the absence of a study in which hemogram parameters were evaluated similarly.

ID: **85**

Topic: **Cardiology > Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

# PERICARDITIS FOLLOWING LEFT ATRIAL ABLATION

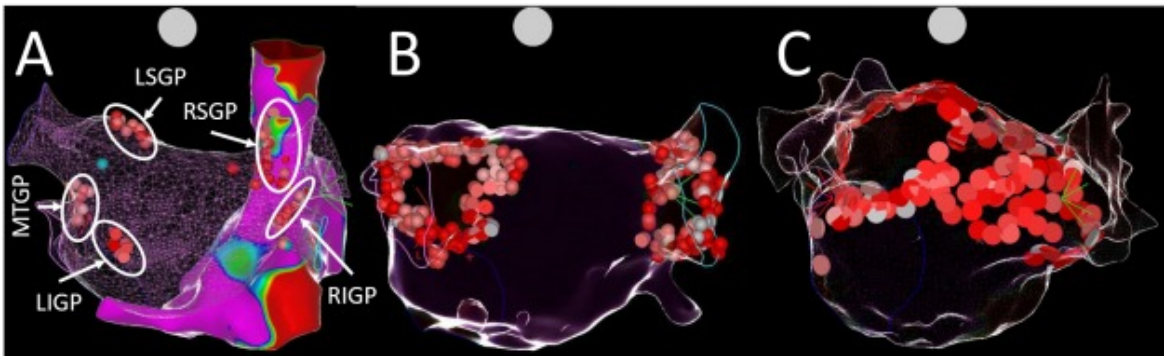
**Tolga AKSU**[1], Ferit MUTLUER[1], Halil TANBOGA[2], Dhiraj GUPTA[3]

[1]*Yeditepe University Hospital, , Turkey*

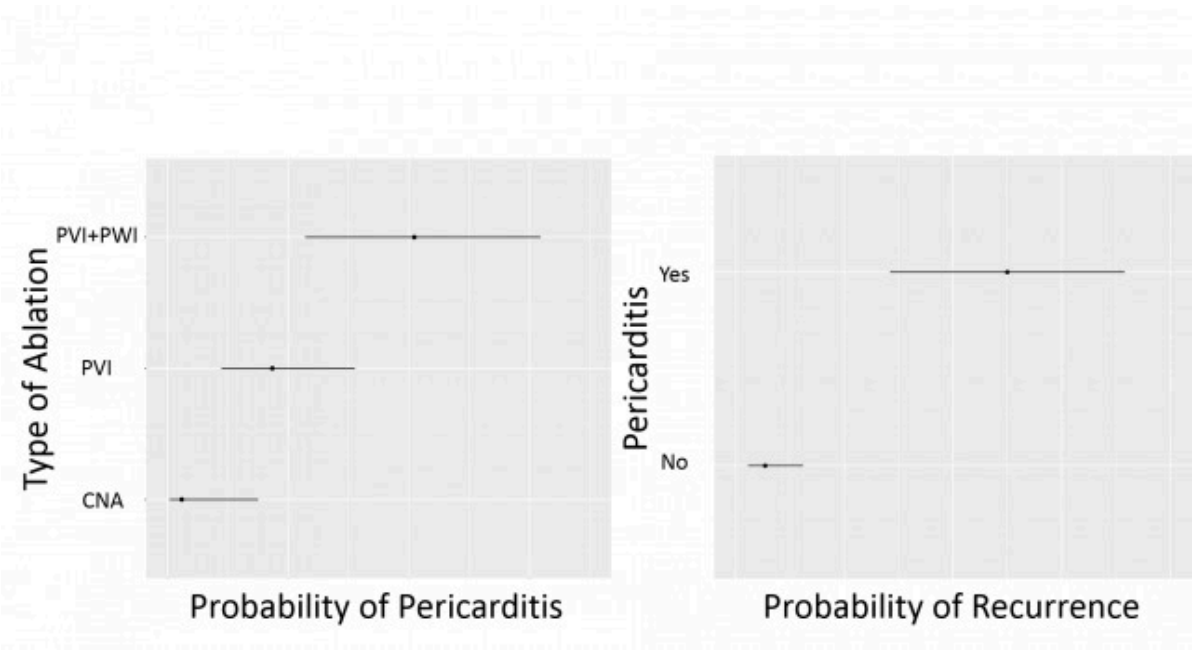
[2]*Nisantası University, , Turkey*

[3]*Liverpool Centre for Cardiovascular Science, , United Kingdom*

Introduction: We aimed to evaluate the incidence of acute pericarditis following cardioneuroablation (CNA) and to compare this with patients undergoing left atrial (LA) radiofrequency ablation for atrial fibrillation (AF). Methods and Results: This is a single-center prospective study. During the study period, CNA for vasovagal syncope was performed in 42 patients, pulmonary vein isolation (PVI) for paroxysmal AF in 46 patients, and posterior wall isolation (PWI) in addition to PVI for persistent AF in 22 patients (Figure 1).




Pericarditis was reported by 18 (16.4%) patients overall: 1 (2.4%) patient in CNA group, 8 (17.4%) patients in PVI group, and 9 (40.9%) patients in PWI ($p<0.001$). On univariable logistic regression analysis, CNA was associated with a lower risk of pericarditis (odds ratio 0.11, 95% CI 0.01-0.97), while ablation of PWI plus PVI was associated with a higher risk of pericarditis compared with PVI (odds ratio 3.29, 95% CI 1.05–10.3) (Figure 2).




Conclusion: This study shows that pericarditis is extremely uncommon following CNA and is significantly less frequent than following AF ablation. This difference is likely related to the much lower amount of LA ablation necessary in this group.

ID: **63**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Oral**

# STANDART VS LIMITED STERNOTOMY IN THE TREATMENT OF SECUNDUM ATRIAL SEPTAL DEFECT

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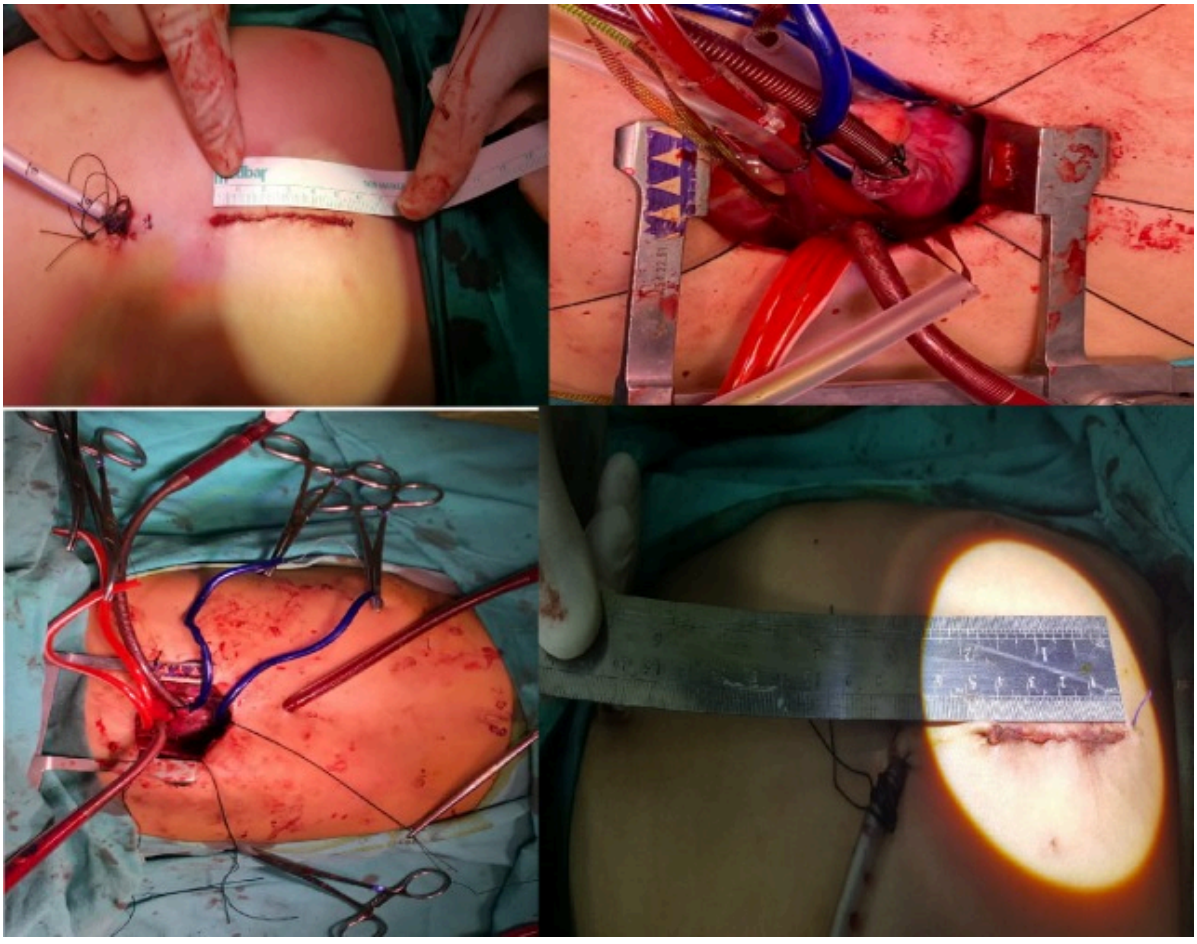
[2]*Mersin State Hospital, Mersin, Turkey*

[3]*Dr. Behcet Uz Children's Training and Research Hospital, İzmir, Turkey*



| | Standard Sternotomy Group | Limited Sternotomy Group | |
|---|---|---|---|
| Age | 6,68±4,36 | 4,3±0,94 | 0,137 |
| Sex (M/F) | 92/58 | 6/4 | 0,160 |
| Weight (kg) | 23,75±15,79 | 27,60±15,67 | 0,179 |

| | | | |
|---|---|---|---|
| Duration of ICU (hr) | 17,65±4,99 | 4,20±1,75 | 0.000 |
| Hospital Stay (day) | 5,86±1,15 | 6,00±4,40 | 0.000 |
| Number of Drains | 1,38±0,48 | 1,00±0,00 | 0.015 |


Objective

Atrial septal defect (ASD) has an incidence of 6-10% among all forms of congenital heart disease. Among the atrial septal defects, secundum type defects have the highest incidence, and these defects are relatively easier to treat than others. In the current era, ASD closure is performed with satisfactory results under cardiopulmonary bypass. A standard full median sternotomy approach is routinely applied. However, minimally invasive surgery is preferred in suitable patients for cosmetic reasons or in case, rapid recovery is aimed. In this study, we sought to compare the hospital data of two patient groups who underwent standard median sternotomy and minimally invasive surgery.

Methods

Overall 160 patients who were operated on with the diagnosis of secundum ASD were included in the study between January 2014 and July 2022. Patients were divided into two groups so as to standard sternotomy and minimally invasive sternotomy. The two groups were compared according to the hospital and intensive care unit lengths of stay, intubation times, and the number of drains used.

Results

There were 98 (61.2%) males and 62 (38.8%) females in the cohort. Intensive care and hospitalization time of the standard sternotomy group was 17.65±4.99 hours and 5.86±1.15 days, respectively, and 4.20±1.75 hours and 6.00±4.40 days in the minimally invasive sternotomy group. The differences were significant. (p:0.00/0.00). While the number of drains inserted in the standard sternotomy group was 1.38±0.48, it was 1 in the minimally invasive sternotomy group. When the groups were compared according to the number of drains inserted, a statistically significant difference was observed. (p:0.015)

Conclusion

Surgical closure of an atrial septal defect involves very few risks; thus, considered as a safe and feasible operation for all ages. Minimally invasive surgery has begun to replace standard surgery, thanks to newly developed surgical instruments. Furthermore, patients who underwent minimally invasive surgery recover faster in reference to standard surgery.



Keywords

Atria septal defect, sternotomy, minimally invasive, surgical repair, hospital stay

**Oral Presentation Session**

**Surgical Management of Congenital Heart Detects : An Interregional Platform**

**Date: 01.12.2022 Time: 14:30-15:30 Hall: 5**

ID: **32**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

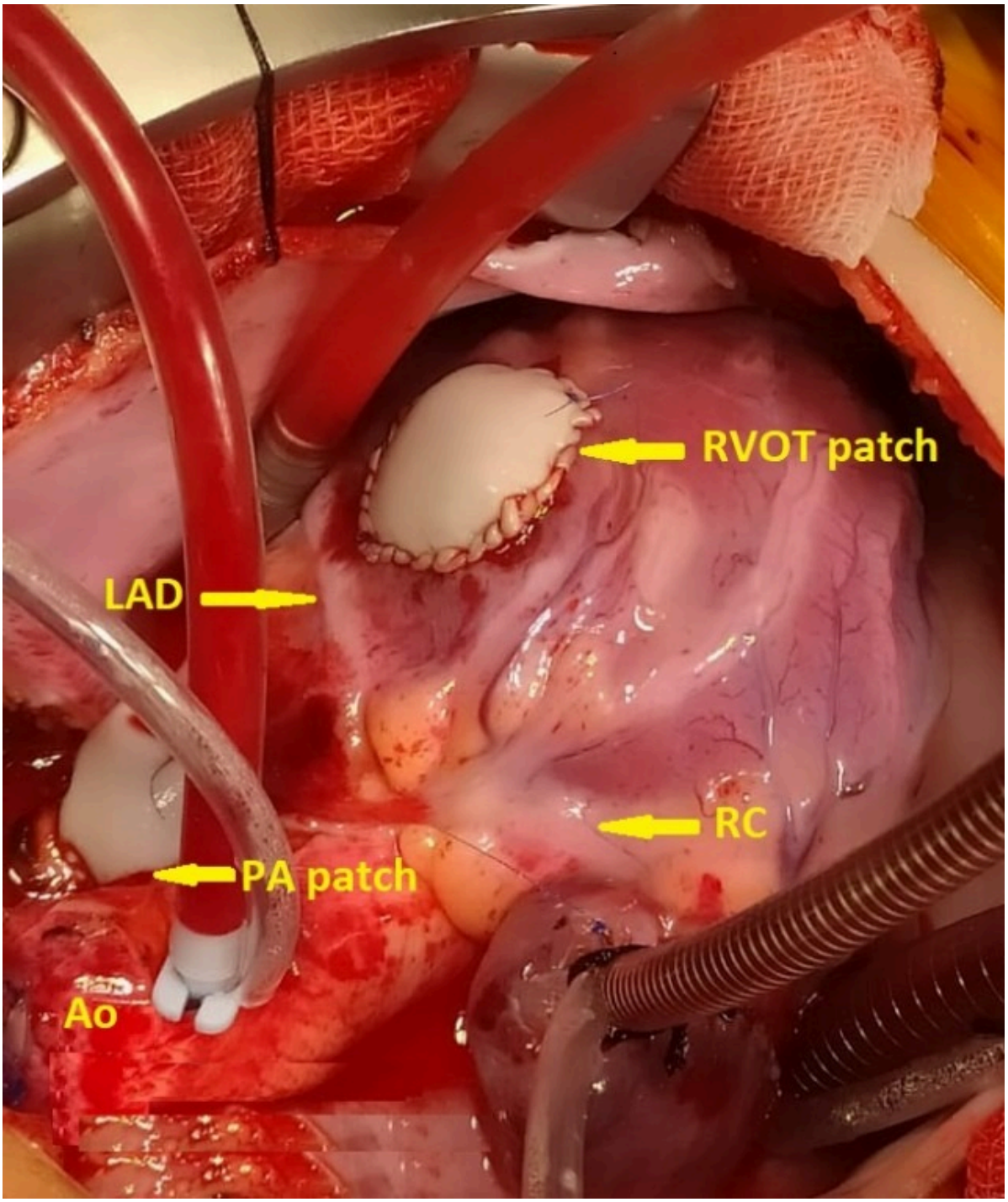
Presentation Type: **Oral**

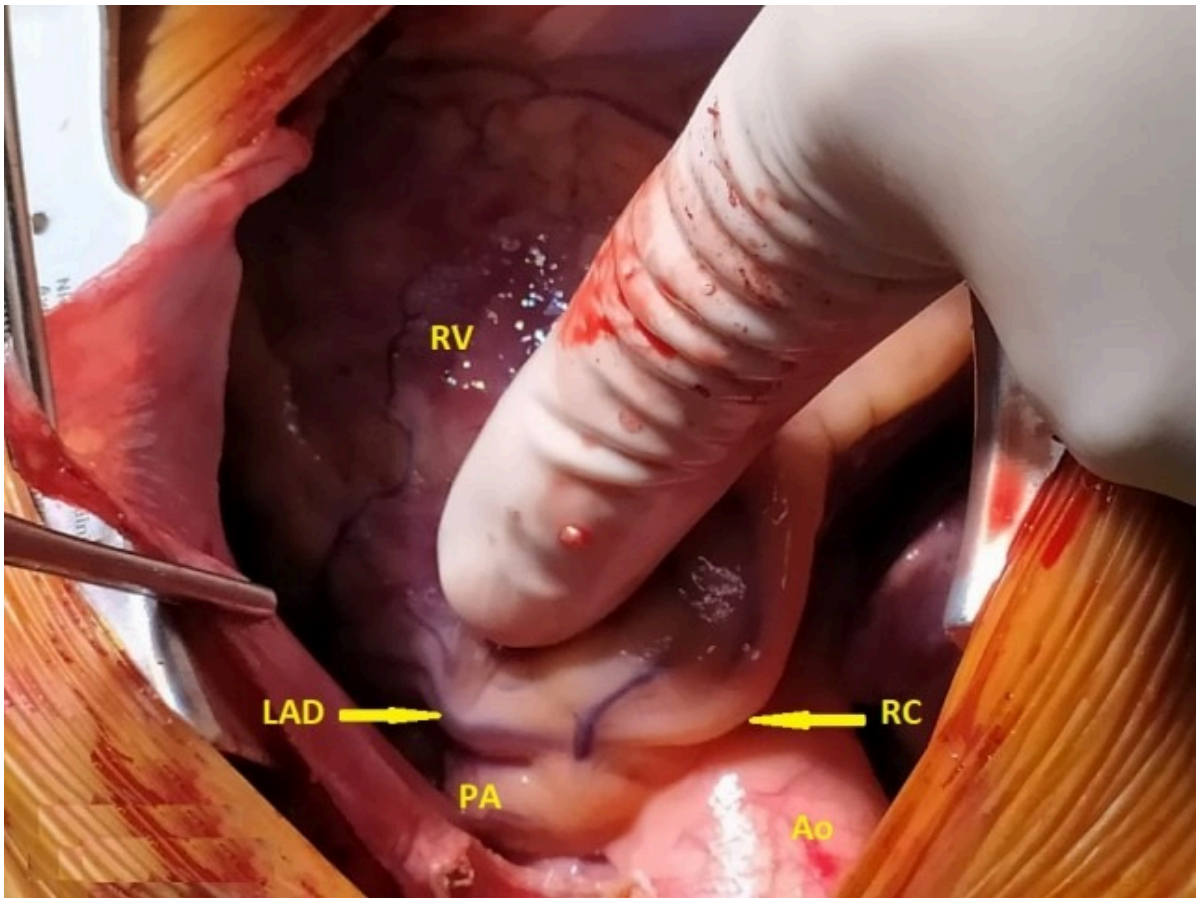
# TWO-PATCH REPAIR OF TETRALOGY OF FALLOT WITH ANOMALOUS LEFT ANTERIOR DESCENDING CORONARY ARTERY CROSSING THE OBSTRUCTED RIGHT VENTRICULAR OUTFLOW TRACT: TWO CASES REPORT

**Farouk ALMOHAMMAD**

*Qah Cardiac Surgery Hospital, Qah, Syria*

Anomalous Coronary arteries (ACA) in patients with tetralogy of Fallot (TOF) are not uncommon. Various surgical techniques were described for the management of the origin of the left anterior descending coronary artery (LAD) from the right coronary artery (RCA) crossing the right ventricular outflow tract (RVOT). We report two cases of TOF with the origin of LAD from RCA crossing RVOT diagnosed intra-operatively. The complete repair was performed with the tow-patch technique. Perioperative and short-term follow - up results were good.


RVOT patch
LAD
RC
PA patch
Ao


RV
LAD
RC
PA
Ao

ID: **104**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# CAVOPULMONARY ANASTOMOSIS IN PATIENTS LESS THAN 3 MONTHS OLD

**Mohamed ISMAIL**[1], **Ahmed JAMJOOM**[2]

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[2]*King Faisal Specialist Hospital, Jeddah, Saudi Arabia*

BACKGROUND:
The bidirectional cavopulmonary shunt (BCPS) has become a well-established procedure for the palliation of functionally univentricular hearts. There was a combination of factors not to do BCPS in young infants including, unfavorable results after classic Glenn shunt in babies and uncertainty regarding the reactivity of the pulmonary vasculature in this group of patients.
METHODS: This retrospective study includes all consecutive newborns who underwent Glenn procedure between 2010 and 2020. We will divide them into 2 groups, group A (n=26) who underwent Glenn under 90 days of age, and group B (n=307) more than 90 days.
RESULTS: Age was 57.8±23.3 days in group A and 544.2±128.21 days in group B ($p<0.001$). Group A had male 22(84.6%) while group B had 178 (58%) ($p=0.005$). Body weight was also found to be significant 4.67±1.67 kg in group A and 10.26±8.5 kg in group B ($p=0.004$). Discharge oxygen saturation, time to Fontan, ICU stay, and length of stay was not significantly different. Take down Glenn and established BT shunt was detected in one patient (7.69%) of group A, while only one case of group B (0.33%) was taken down ($p<0.001$). Ten cases of group A had extra-cardiac Fontan (38.46%), and 61 (19.86%) of group B had their Fontan. Early mortality was reported in one patient of group A (3.85%). In group B early mortality occurred in 6 patients (1.96%) with no significance. Late mortality was recorded in 1 patient in group A (3.85%) while 7 patients (2.24%) died during follow up of group B before the age of Fontan.

CONCLUSION:
Early Glenn shunt can be done safely in patients less than 3 months of age, with early and late mortality similar to older Glenn patients.

**Oral Presentation Session**

**Common Risk Factors and Prevention Strategies**

**Date: 01.12.2022 Time: 15:00-16:00 Hall: 4**

ID: **112**

Topic: **Cardiology > Hypertension and antihypertensive therapy**

Presentation Type: **Oral**

# INCREASED TRPV1 EXPRESSION IN THE AORTA OF HYPERTENSIVE PATIENTS WITH CORONARY ARTERY DISEASE

**Algül Dilara DOKUMACI**[1], **Belgin ALAŞEHİRLİ**[1], Akif Serhat BALCIOĞLU[2], Nadire ESER[3], Ibrahim Seyfettin ÇELİK[4], Lütfiye ÖZPAK[5], Mehmet ACIPAYAM[6]

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[3]*Kahramanmaraş Sütçü İmam University, Faculty of Medicine, Department of Medical Pharmacology, Kahramanmaras, Turkey*

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[6]*Kahramanmaraş Sütçü İmam University, Faculty of Medicine, Department of Cardiovascular Surgery, Kahramanmaras, Turkey*

OBJECTIVE Despite the availability of various medications and combination therapies, uncontrolled blood pressure and resistant hypertension are observed in more than 40% of hypertensive patients. Therefore, identification of novel therapeutic targets that can prevent high blood pressure can be of great value in anti-hypertensive therapy. Transient receptor potential (TRP) channels are a class of cationic channels that act as signal transducers by altering the membrane potential or the intracellular calcium ($Ca^{+2}$) concentration. Abnormal expression and dysfunction of TRP channels have been demonstrated in animal models and

hypertensive patients. In this pilot study, we aim to investigate the expression profile of TRP channels in the aorta of hypertensive patients with coronary artery disease.

METHODS We collected discarded ascending aortic specimens from hypertensive (n=11) and normotensive (n=4) coronary artery patients undergoing coronary artery bypass graft surgery (CABG). They were matched by age, sex, and co-morbidities. mRNA levels of TRP channels were measured using the quantitative real-time polymerase chain reaction. Data were analyzed using the $2^{-\Delta\Delta Ct}$ method, where Ct = threshold cycle. Power analysis was performed using G power. The normality of distribution was assessed using the Shapiro–Wilk test. For calculation of the significance of differences in gene expressions, the Mann-Whitney U-test was used.

RESULTS Compared with normotensive controls, TRPV1 mRNA expression was higher in the aorta of hypertensive patients (4.314 ± 3.032 vs. 22.537 ± 12.273, p=0.037). TRPM7 expression tended to increase (16.538 ± 15.287 vs. 38.254 ± 14.702, p=0.165), whereas TRPC6 tended to decrease (1.196 ± 0.571 vs. 0.568 ± 0.191, p=0.192) in hypertensive patients, but did not reach the significance level.

CONCLUSIONS In the aorta of patients with hypertension, varying mRNA expression levels of TRP channel members were observed. This may play an important role in the progression and treatment of hypertension. Thus, therapeutic agents targeting TRP channels can have great promise for antihypertensive therapy.

**Table I. Baseline Characteristics of the Enrolled Participants**

| **Characteristics** | **NT (n=4)** | **HT (n=11)** | ***p* value** |
|---|---|---|---|
| Age (years) | 61.00 ± 8.86 | 64.09 ± 7.31 | 0.47 |
| Gender<br>Male (n, %)<br>Female (n, %) | <br>3 (20)<br>1 (6.66) | <br>7 (46.67)<br>4 (26.67) | 0.68 |
| SBP (mm Hg) | 125.80 ± 6.42 | 133.36 ± 11.26 | 0.11 |
| DBP (mm Hg) | 73.00 ± 4.47 | 71.18 ± 8.54 | 0.66 |
| HbA1c (%) | 8.28 ± 3.09 | 7.59 ± 2.74 | 0.66 |
| TG (mg/dL) | 122.20 ± 68.07 | 173.36 ± 34.62 | 0.062 |
| TC (mg/dL) | 160.40 ± 26.39 | 193.64 ± 32.19 | 0.064 |
| HDL-C (mg/dL) | 46.20 ± 12.58 | 40.73 ± 7.13 | 0.28 |
| LDL-C (mg/dL) | 99.20 ± 34.51 | 131.27 ± 32.22 | 0.092 |
| AST(U/L) | 28.40 ± 11.55 | 24.55 ± 11.82 | 0.55 |
| ALT (U/L) | 28.40 ± 23.83 | 23.36 ± 8.56 | 0.53 |
| Serum calcium (mg/dL) | 8.60 ± 0.87 | 9.45 ± 0.70 | 0.054 |
| Serum sodium (mmol/L) | 141.00 ± 3.00 | 137.55 ± 3.33 | 0.068 |
| Serum potassium (mmol/L) | 4.38 ± 0.75 | 4.55 ± 0.34 | 0.543 |
| Cr (mg/dL) | 0.77 ± 0.27 | 0.84 ± 0.16 | 0.50 |
| BUN (mg/dL) | 12.40 ± 4.83 | 16.55 ± 3.01 | 0.052 |

Data are expressed as mean ± s.d. or n,%. Student t test. *Significant $p < 0.05$. NT normotensive patients, HT hypertensive patients, SBP systolic blood pressure, DBP diastolic blood pressure, TG triglyceride, TC cholesterol, HDL-C high-density lipoprotein cholesterol, LDL-C low-density lipoprotein cholesterol, AST aspartate aminotransferase, ALT alanine aminotransferase, Cr serum creatine, BUN serum urea nitrogen.

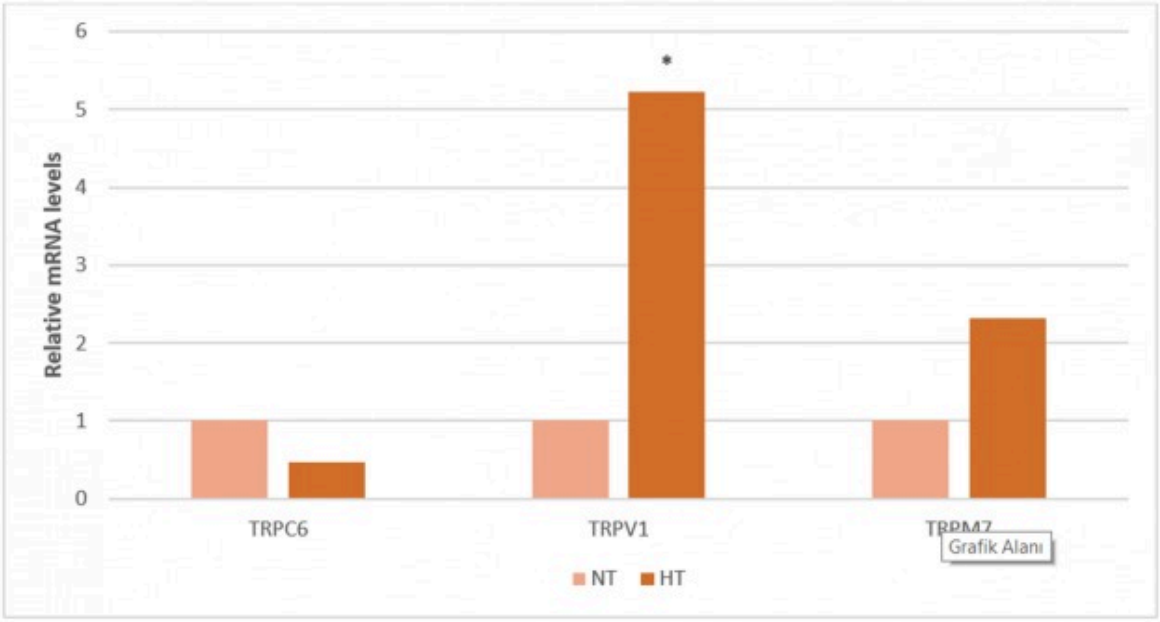



**Figure 1.** Relative mRNA Levels of Transient Receptor Potential (TRP) Channels in Normotensive (NT) and Hypertensive (HT) Patients. Columns represent relative group mean $2^{-\Delta\Delta Ct}$ values. TRPC6 Transient Receptor Potential Channel Canonical 6, TRPV1 Transient Receptor Potential Channel Vanilloid 1, TRPM7 Transient Receptor Potential Channel Melastatin 7. *Mann–Whitney U test, $p < 0.05$. p= 0.192, p=0.037*, p=0.165 respectively.

ID: **93**

Presentation Type: **Oral**

# DIPPING PATTERN IN MASKED HYPERTENSION MAY INFLUENCE MYOCARDIAL PERFORMANCE INDEX BEFORE DEVELOPMENT OF OVERT SIGNS OF HYPERTENSIVE CARDIAC DISEASE

**Betul Banu KARASU**

*Etimesgut Sehit Sait Erturk State Hospital, Ankara, Turkey*

OBJECTIVE: It's well established that blunted dipping of nocturnal blood pressure in hypertensive patients may translate into increased risk of target organ damage, cardiovascular events and even mortality. On the other hand, myocardial performance index is a reliable and powerful clinical tool assessing ventricular systolic and diastolic functions at the same time and it may be used in earlier detection of global cardiac insufficiency that may develop in many disease states. However, the number of studies reporting the role of myocardial performance index in the evaluation of detrimental effects of non dipping pattern on cardiac functions in hypertensive patients is extremely limited and to the best of our knowledge there is not a relevant study for patients with masked hypertension. We aimed to investigate the influence of dipping status of blood pressure on myocardial performance index in patients with masked hypertension before development of overt signs of target organ damage.

METHODS: Patients who had an office blood pressure of <140/90 mm Hg and daytime ambulatory blood pressure of ≥ 135/85 mm Hg or nighttime ambulatory blood pressure of ≥ 120/70 mmHg were prospectively evaluated between August 2021 and April 2022. Of these, 78 patients who didn' have left ventricular hypertrophy, secondary hypertension, diabetes mellitus, obesity, left ventricular systolic dysfunction, any cardiovascular disease, chronic renal or liver failure were enrolled and further divided into dipper (n=42) and non-dipper (n=36) groups. Echocardiographic examinations were performed and myocardial performance index of each patient was calculated.

RESULTS: There were no significant differences between groups in terms of age, sex, body mass index, 24-hour blood pressure levels, LVEF, early diastolic mitral inflow velocity to late diastolic mitral inflow velocity ratios and isovolumetric relaxation time ($p>0.05$). However, ejection time (in miliseconds) was significantly lower in the non-dipper group (301.30 ± 13.7; 316.34 ±17.95, $p <0.001$) while isovolumetric contraction time (in miliseconds) (66.88±8.1;58,15±6.0, $p<0.001$) and myocardial performance index (0.506±0.41;0.447±0.339, $p<0.001$) were significantly higher in the non-dipper group.

CONCLUSIONS: This study reveals that non-dipping pattern in masked hypertension may be associated with impairment of myocardial performance index in the absence of a clinically apparent cardiac disease. Therefore, non-dipping pattern may contribute to the developing global left ventricular dysfunction and myocardial performance index may be a valuable measure to assess this potential risk in the follow-up of patients with masked hypertension.

ID: **132**

Topic: **Cardiology > Hypertension and antihypertensive therapy**

Presentation Type: **Oral**

# EFFECTS OF VASCULAR ENDOTHELIAL GROWTH FACTOR INHIBITORS ON SYSTEMIC ARTERIAL BLOOD PRESSURE: EVALUATION BY AMBULATORY BLOOD PRESSURE MEASUREMENT

**Eren Ozan BAKIR**, Nurullah ÇETIN, Ferhat EKINCI

*Celal Bayar University, Manisa, Turkey*

BACKGROUND

Vascular Endothelial Growth Factor (VEGF) is one of the primary regulators of angiogenesis. VEGF inhibitors are effective molecules that are increasingly used in cancer treatment by preventing the formation of new vessels. Hypertension is quite common among the side effects seen with the use of VEGF inhibitors. We aimed to evaluate its effects on systemic arterial blood pressure by ambulatory blood pressure measurement.

METHODS

The patients included in the study group were selected among the patients who applied to the oncology outpatient clinic and decided to start VEGF inhibitor treatment as a result of the clinical indication and applied to the cardiology outpatient clinic between September 2020 and November 2021 for routine pre-treatment cardiac evaluation. Echocardiographic imaging and 24-hour ambulatory blood pressure examination were performed before the treatment and the results were evaluated. Among these patients, those who were already hypertensive (by starting the necessary antihypertensive treatments) and diagnosed with systolic or diastolic heart failure were excluded. After approximately 30-45 days of treatment (30 days for oral medications, after the 3rd cycle for bevacizumab treatment), control echocardiographic examinations and 24-hour ambulatory blood pressure examinations were repeated, and the values before and after treatment were compared.

RESULTS

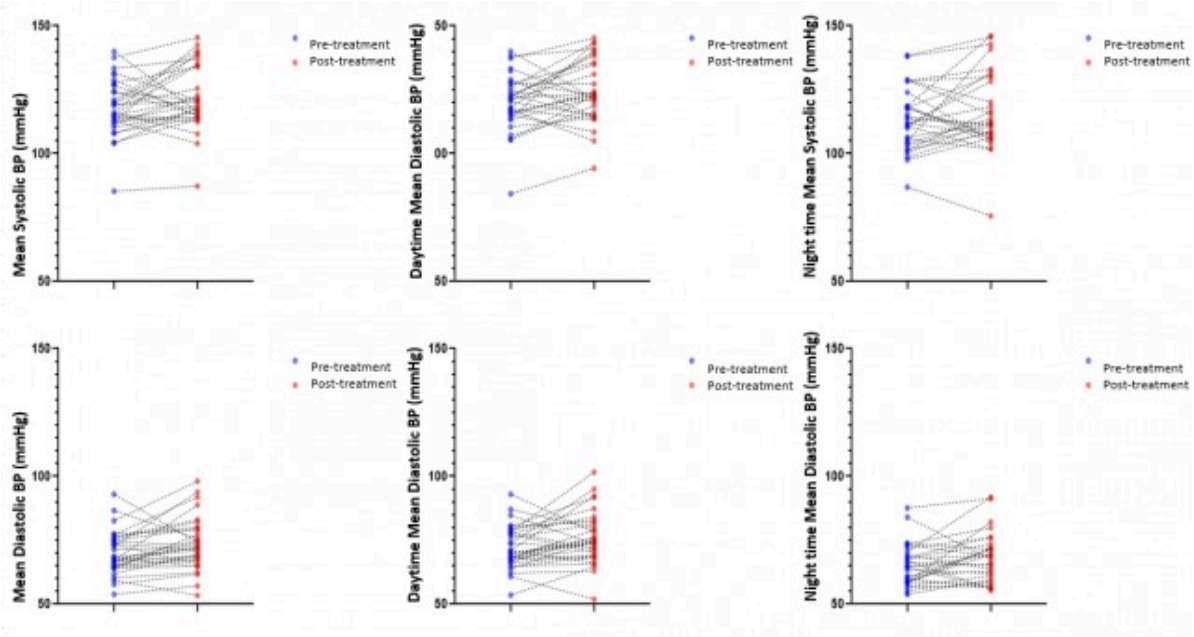
With the evaluation of mean ambulatory blood pressure measurement results of the patients all day, day and night; an increase was found in all systolic and diastolic measurements in all day mean, day, and night measurements. A statistically significant increase was observed in mean systolic, mean diastolic, daytime systolic, and daytime diastolic measurements. (Mean systolic: 118.33±10.92--123.81±14.54 p(0.017), Mean diastolic: 69.85±8.26--73.43±10.0 p(0.018), Daytime systolic: 120.52±10.96--126.36±14.17 p(0.011), Daytime diastolic: 72.17±8.19--75.87±10.11 p( 0.023). No statistically significant difference was found in the patient's blood results or echocardiographic parameters.

CONCLUSIONS

As a result of our study, it was observed that VEGF inhibitors increased the mean arterial blood pressure (all-day mean, day-time, and night-time measurements) and both systolic and diastolic blood pressure, regardless of hypertension history. Even if the blood pressures of the patients are below the limit values determined by the guidelines for the diagnosis of hypertension, it should be considered that there may be progression after the treatment is started. In this context, it is important to routinely follow up more closely with the patients who will receive VEGF inhibitor therapy in their oncological evaluation.

| **Table 1. Demographic, Chemotherapeutic agent, and Ambulatory Blood Pressure Measurement (ABPM) results of the studied population** | | | |
|---|---|---|---|
| Age | 58.3±10.6 | | |
| Height (cm) | 162.8±8.3 | | |
| Weight (kg) | 73.1±10.7 | | |
| Gender | | | |
| Male (n, %) | 13 | 39.3% | |
| Female (n, %) | 20 | 60.6% | |
| **Chemotherapeutic agent** | | | |
| Bevacizumab | 28 | 84.84% | |
| Sorafenib | 1 | 3.0% | |
| Sunitinib | 4 | 12.12% | |
| **The Arterial Blood Pressure Values Before and After VEGF Inhibitors Treatment** | | | |
| | **Pre-treatment** | **Post-treatment** | **p value** |
| Mean systolic | 118.33±10.92 | 123.81±14.54 | 0.017 |
| Mean diastolic | 69.85±8.26 | 73.43±10.0 | 0.018 |
| Daytime systolic | 120.52±10.96 | 126.36±14.17 | 0.011 |
| Daytime diastolic | 72.17±8.19 | 75.87±10.11 | 0.023 |
| Night time systolic | 113.43±11.94 | 117.66±16.59 | 0.081 |
| Night time diastolic | 64.74±8.47 | 67.15±10.32 | 0.098 |

*Figure 1. Patient's ambulatory blood pressure changes with treatment*


Mean Systolic BP (mmHg)
Daytime Mean Diastolic BP (mmHg)
Night time Mean Systolic BP (mmHg)
Mean Diastolic BP (mmHg)
Daytime Mean Diastolic BP (mmHg)
Night time Mean Diastolic BP (mmHg)
Pre-treatment
Post-treatment
150
100
50

ID: **252**

Topic: **Cardiology > Coronary artery disease - CABG surgery**

Presentation Type: **Oral**

# PROTECTIVE EFFECT OF HDL AGAINST CORONARY ARTERY DISEASE: LOX-1 BINDING HDL IS A DEVIL

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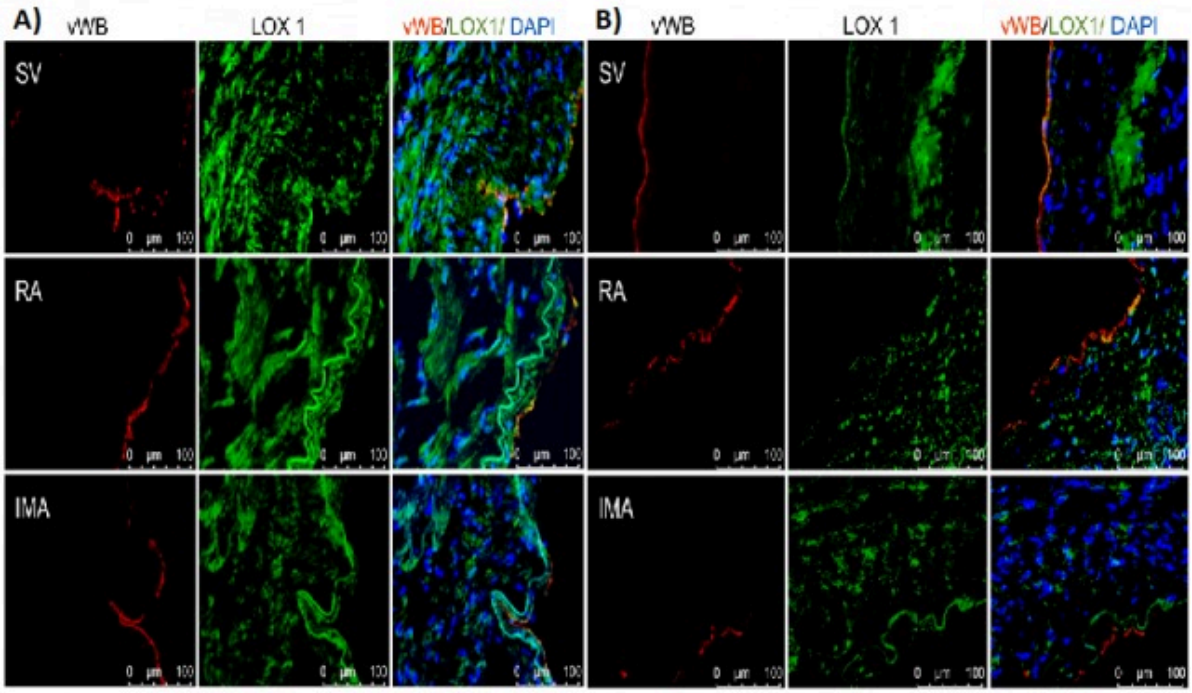
[2]*BARTIN STATE HOSPİTAL, BARTIN, Turkey*

Objectives: Recent studies have suggested that high HDL levels increase the risk of coronary artery disease. So the protective effect of HDL against CVD events is not solely dependent on High-Density Lipoprotein (HDL) levels . Some reports also indicate that LOX-1 (Lectin-like oxidized low-density lipoprotein receptor-1) having a vital role in atherosclerotic and related disease is also a receptor for modified HDL and overexpression of LOX-1 binding to HDL make it dysfunctional and gaining the proatherogenic property. We aimed to investigate the the role of non-functional High-Density Lipoprotein (HDL) binding to Lectin-like oxidized low-density lipoprotein receptor-1 (LOX-1) in patients with Coronary Artery Disaese (CAD)

Methods: Twenty-one patients who underwent multivessel CABG using internal mammarian artery (IMA), radial artery (RA) and saphaneous vein (SV) grafts between November 2019 and April 2020 were obtained. Using CD31 to identify endothelial cells; LOX-1 expression in all cells in culture was evaluated.

Findings: The study consists of 21 patients, 17 (80.9%) males and 4 (19.04%) females. We found a significant positive correlation between HDL and LOX-1+ in the specimens explanted from any type of grafts (SV, r=0.60; RA, r=0.48; IMA, r=0.53). ~28% of variation in LOX-1+ for IMA ($F=7.03$; $p<0.05$), ~36% of variation in LOX-1+ for SV ($F=10.10$; $p<0.05$) and ~24% of variation in LOX-1+ in the RA ($F=5.64$; $p<0.05$) were explained by HDL.

Conclusions: In the light of these findings, our study suggests that HDL in the higher levels binds to LOX-1 and loses its believed antiatherogenic function in the patients with CAD. We believe that this is the first study in the literature that demonstrates the correlation between the LOX 1 receptors and HDL in the grafts using for CABG separately.In cases with high LOX-1 receptor expression, HDL binds to LOX-1 and loses its function. Its function is gaining more importance than HDL cholesterol levels. It may be possible to conclude that,it is insufficient to evaluate the risk of cardiovascular disease by only looking at the HDL level. Measuring HDL dysfunction is more important in assessing CAD risk




**HYPERTROPHIC CARDIOMYOPATHY**

ID: **233**

Topic: **Cardiology > Preventive cardiology**

Presentation Type: **Oral**

# PROTECTIVE EFFECT OF AMIFOSTINE ON RADIOTHERAPY APPLIED CARDIOVASCULAR TISSUE

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[2]*İnönü University, Malatya, Turkey*

Objective: Radiotherapy (RT) is an important modality in cancer treatment. However, there are significant side effects in normal tissues in RT-treated areas. İn this study, the protective effect of amifostine on acute toxicity in large vessels and heart was evaluated in rats with RT applied to the thorax.

Methods: Twenty one Wistar albino rats were randomly assigned to three groups. Alone RT (n=7), amifostine plus RT (AMI+RT, n=7) and control (CONT, n=7) groups. The rats in the RT and AMI+RT groups were irradiated with a single dose of 20 Gy to the whole thorax. Amifostine (200mg/kg) was given intraperitoneally 30 min. before irradiation. Five days later irradiation, p53, cd68, and cox in the vascular tissue (Aorta) were counted, serum and heart tissue levels of malondialdehyde (MDA) and glutathione were measured.

Results: Irradiation significantly increased p53, cd68 and cox damage in aorta tissue ($p<0.001$, $p<0.001$ and $p < 0.0001$). Amifostine improved cd68 levels similar with CONT ($p>0.05$). Although p53 and cox levels improved, they didn't come to CONT (p:0.04 and p:0.01). The level of MDA significantly increased after irradiation but glutathione levels not changed ($p< 0.001$ and p: 0.138). MDA levels were significantly reduced by amifostine and glutathione levels increased (p: 0.03 and p: 0.007). When comparing CONT group with AMI + RT, MDA and glutathione levels were similar (p: 0.3 and p:0.136).

Conclusions: Amifostine have a radioprotective and antioxidant effect against RT induced cardiovascular toxicity.

ID: **71**

Topic: **Cardiology > Preventive cardiology**

Presentation Type: **Oral**

# BIOCHEMICAL PARAMETERS AFFECTING INCREASED NOCTURNAL AUTONOMIC ACTIVATION

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Background: The day–night change of the autonomic system affects cardiac events, especially coronary artery disease, heart failure, and arrhythmia. An indirect measurement of autonomic nervous system (ANS) activity is the Lf/Hf ratio calculated for heart rate variability from application of a Holter monitor.

Objective: In humans, nocturnal parasympathetic activation is increased and sympathetic activation is decreased in the diurnally changing ANS. ANS activation is mediated by a number of biochemical mediators. The study aimed to determine the commonly used biochemical parameters that may affect the day–night change.

Methods: Day–night Lf/Hf ratios in the Holter recordings of 900 subjects with palpitations (female: 562 (62.4%), male: 338(37.5%)) and available biochemical parameters were analyzed. ECG and echocardiographic examinations of the subjects were normal. Subjects were divided into two groups, group 1 (n :620) in which day–night Lf/Hf ratios decreased and group 2 (n: 280) in which they increased. Groups were in a close range in terms of age, gender, and BMI (kg/m2).

Results: The average increase in night Lf/Hf ratio in the increasing group (median (IQR)) was 0.27 (0.52–0.12) and the average decrease in the decreasing group was 0.3 (0.16–0.43). Glucose, creatinine, urea, BUN, and ALT values were higher in the group whose Lf/Hf increased at night (p: 0.003, 0.000, 0.000, 0.000, 0.006, respectively); TSH and albumin values were lower (p: 0.037, 0.034, respectively). The mean sensitivity for these parameters was determined as 51%.

Conclusions: It is possible to detect high glucose, creatinine, urea, BUN and ALT, and low TSH and albumin values with 51% sensitivity in people whose Lf/Hf ratio increases at night.

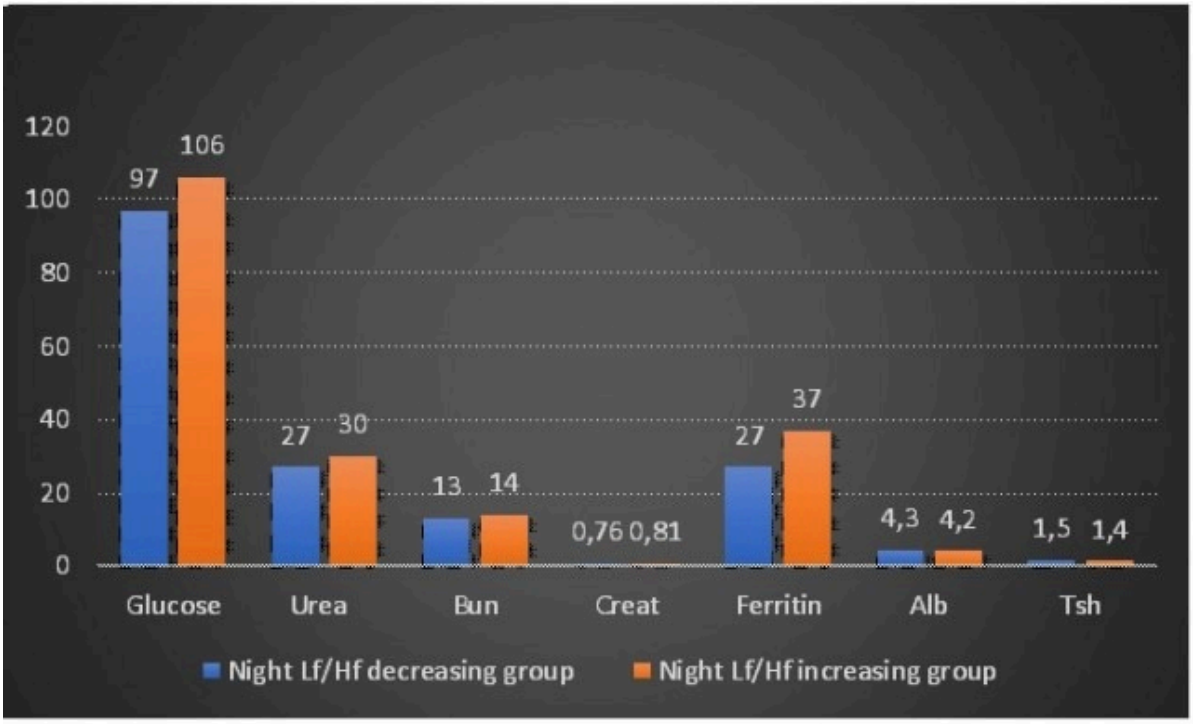


Figure1.Parameters that differ between groups

ID: **26**

Topic: **Cardiology > Coronary artery disease - CABG surgery**

Presentation Type: **Oral**

# THE CORRELATION OF TRIGLYCERIDE / HDL RATIO WITH COLLATERAL INDEX IN PATIENTS WITH CORONARY CHRONIC TOTAL OCCLUSION

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[2]*CARDİOLOGY, RİZE, Turkey*

Aim: As a new atherogenic index, the association of triglyceride to HDL ratio (TG / HDL)with insulin resistance and its significance in risk and prognostic evaluation of cardiovascular diseases have been shown in several studies. In case of TIMI 0 flow in one of the coronary arteries after 3 months or more of complete occlusion, chronic total occlusion (CTO) is mentioned. Coronary collateral circulation (CCD) angiogenesis and narrowing of the coronary arteries Expansion of pre-existing collateral vessels due to the pressure difference before and after result occurs. Coronary collateral development (CHG) is examined in coronary angiography (CAG) according to the Cohen-Rentrop method is evaluated. In this study, we investigated the relationship between the TG/HDL ratio and the development of coronary collateral circulation (CCD).

Material and Methods: This retrospective cross-sectional study was performed in coronary angiography series between 2019-2021 hospital records of patients with chronic total were reviewed. Coronary angiography of 243 patients included in the study pre; triglyceride levels, HDL levels, triglyceride / HDL ratios were measured. Collateral circulation is Rentrop. evaluated according to collateral classification. Rentrop grades 0 and 1 are weak collateral, grades 2 and 3 are good grouped as collateral. The patients' routine blood tests, clinical risk factors, coronary collateral were documented together with the circulatory class and atherogenic plasma indices. Good with weak collateral patient group TG/HDL ratio was compared in collateral advanced patient groups.

Conclusıon: There was no significant difference between the two groups in terms of basic clinical and laboratory findings. TG/HDL ratio is poor was higher in the collateral developing coronary artery patient group 6.14±4.31 vs. 3.85±2.61, <.001* According to this a low atherogenic plasma index (AIP) is an independent predictor of good collateral artery development. detected.

Results: High TG/HDL ratio is an independent cardiometabolic marker associated with poor collateral development we revealed.

Keywords: coronary artery disease, coronary angiography, chronic total occlusion, Triglyceride/HDL ratio;

| poor collateral group (n: 88) | well collateral group (n:155) | p value | |
|---|---|---|---|
| Age (years) | 61,51± 10,91 | 64,45± 9,97 | 0,034 |
| Sex(n,%) males | 80(%90,9) | 130(%83,9) | 0,172 |
| Hypertension n(%) | 63 (% 71,6) | 97 (%62,6) | 0,163 |
| Diabetes mellitus n (%) | 37(%42) | 44(%28,4) | 0,034 |

| | | | |
|---|---|---|---|
| Hyperlipidemia n (%) | 38(43,2) | 54(34,8) | 0,217 |
| Smoking n(%) | 35(39,8 | 44(28,4 | 0,087 |
| Fasting glucose (mg/dl) | 163,47±89,39 | 140,29±59,13 | 0,016 |
| Creatinine (mg/dl) | 1,25±1,22 | 1,04±0,48 | 0,059 |
| AST (U/L) | 40,64±53,41 | 33,74±36,34 | 0,234 |
| ALT(U/L) | 28,05±35,69 | 27,98±21,67 | 0,984 |
| Fasting HDL cholesterol (mg/dl) | 40,70±16,17 | 43,48±10,09 | 0,099 |
| Fasting triglyceride(mg/dl) | 229,48±162,65 | 156,34±92,12 | <.001 |
| Hemoglobin (g/dl) | 13,87±1,79 | 13,85±1,91 | 0,954 |
| Platelet (103/mm3) | 244,61±80,9 | 239,98±76,52 | 0,657 |
| Fasting triglyceride/Fasting HDL cholesterol | 6,14±4,31 | 3,85±2,61 | <.001 |
| Left ventricular ejection fraction(%) | 47,05 ±10,39 | 50,10±10,16 | 0,028 |

ID: **43**

Topic: **Cardiology > Metabolic Syndrome**

Presentation Type: **Oral**

# TRIGLYCERIDE GLUCOSE INDEX IS RELATED WITH CARDIAC AUTONOMIC DYSFUNCTION IN PATIENTS WITH METABOLIC SYNDROME

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**Objective:** Cardiac autonomic dysfunction is encountered in approximately 25% of patients with metabolic syndrome (MetS). 24 hr Holter-ECG based heart rate variability (HRV) and heart rate turbulence (HRT) parameters are used to evaluate cardiac autonomic function. We aimed to investigate the relationship between a novel insulin resistance marker, triglyceride glucose (TyG) index and cardiac autonomic dysfunction in patients with MetS.

**Material and methods:** We examined a total of 400 non-diabetic subjects, 136 with MetS and 264 without MetS. The clinical and laboratory findings are shown in Table 1. All patients underwent TyG index calculations, and 24 hr Holter-ECG recordings for the measurement of HRV and HRT parameters.The TyG index was calculated according to the formula: TyG index = ln [fasting triglycerides (mg/dl) × fasting plasma glucose (mg/dl)/2].

**Results:** HRV and HRT parameters were lower or higher in patients with MetS than in subjects without MetS, indicating cardiac autonomic dysfunction (Table 2). We also observed significant correlations between TyG index and measures of cardiac autonomic function only in patients with MetS. TyG index was correlated with SDNN ($r=-0.315$, $p<0.001$), SDNN index ($r=-0.298$, $p<0.001$), SDANN ($r=-0.285$, $p<0.001$), RMSSD ($r=-0.263$, $p<0.001$), pNN50 ($r=-0.160$, $p=0.040$), turbulence onset ($r=0.204$, $p=0.009$), and turbulence slope ($r=-0.252$, $p=0.001$). No such correlations were observed in the control group. Multiple linear regression analysis showed that the TyG index was an independent predictor of almost all HRV and HRT parameters, including SDNN, SDNN index, SDANN and turbulence slope.

**Conclusion:** This study demonstrates the independent relationship between cardiac autonomic dysfunction and the TyG index, a novel marker of insulin resistance in non-diabetic patients with MetS.

**Table 1. Baseline characteristics and laboratory findings**

| Variables | Metabolic Syndrome group (n=164) | Control group (n=236) | p |
|---|---|---|---|
| Age, years | 58 (48/69) | 55 (44/68) | 0.123 |
| Gender, male/female, numbers (%) | 70/94 (42.7/57.3) | 116/120 (49.2/50.8) | 0.202 |
| Body mass index, kg/m$^2$ | 30.9 (27.2/33.4) | 27.7 (25.3/30.3) | <0.001 |
| Waist circumference, cm | 96 (89/103.8) | 91 (83/98) | <0.001 |
| Fasting plasma glucose, mg/dl | 109 (100/143.2) | 94 (86.2/108) | <0.001 |
| Triglycerides, mg/dl | 166 (118/208) | 104 (79/134) | <0.001 |
| Hemoglobin A1c, % | 5.9 (5.7/6.2) | 5.4 (5/5.9) | <0.001 |
| Triglycerideglucose index | 9.138 ± 0.543 | 8.561 ± 0.474 | <0.001 |

Data presented as as median (25/75% interquartile range) or mean ± standard deviation.

**Table 2. Comparisons of 24 hr Holter-ECG findings, heart rate variability, and heart rate turbulence**

| Variables | Metabolic Syndrome group (n=164) | Control group (n=236) | p |
|---|---|---|---|
| **Heart rate variability parameters** | | | |
| SDNN, ms | 105 (80.25/131.75) | 119.5 (98/150.75) | <0.001 |
| SDNN index, ms | 42 (32/53) | 49 (40/60.75) | <0.001 |
| SDANN, ms | 96 (71.5/117.75) | 107 (87.25/136) | <0.001 |
| RMSSD, ms | 21.5 (15.25/30) | 27 (20/36.75) | <0.001 |
| pNN50, % | 3.01 (1/9) | 5.7 (2/11) | 0.002 |
| **Heart rate turbulence parameters** | | | |
| Turbulence onset, % | –0.002 (–1.550/0.993) | –1.212 (–3.312/–0.004) | <0.001 |
| Turbulence slope, ms/RR | 3.24 (1.76/6.20) | 6.57 (3.52/13) | <0.001 |

Data presented as as median (25/75% interquartile range). pNN50, the proportion of adjacent RR intervals differing by >50 ms in the 24 hr recording; RMSSD, the square root of the mean squared differences of successive NN intervals; SDANN, the standard deviation (SD) of the average NN intervals calculated over a 5-min period for the entire recording; SDNN, the SD of all NN intervals; SDNN index, the mean of the deviation of the 5-min NN intervals for the entire recording.

**Oral Presentation Session**

**Ischemia, Reperfusion and Beyond : A Translational Perspective**

**Date: 01.12.2022 Time: 15:45-16:45 Hall: 5**

ID: **50**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# THE EFFECT OF PROANTHOCYANIDIN ON ISCHEMIA-REPERFUSION INJURY IN SKELETAL MUSCLES OF RATS.

Abdullah OZER[1], **Başak KOÇAK**[2], Mustafa KAVUTÇU[3], Şaban Cem SEZEN[4], Mustafa ARSLAN[5]

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*[2]Department of Cardiovascular Surgery, Sivas, Turkey*

*[3]Department of Medical Biochemistry, Ankara, Turkey*

*[4]Department of Histology and Embryology, Kırıkkale, Turkey*

*[5]Department of Anaesthesiology and Reanimation, Gazi University, Ankara, Turkey, Ankara, Turkey*

Background:

Lower limb skeletal muscle ischemia-reperfusion injury associated with increased morbidity and mortality is common in several clinical situations such as aortic aneurysms repairment, peripheral arterial surgery, vascular injury repairment, and shock. Although it is generally accepted that oxidative stress mediators have a significant role in ischemia-reperfusion injury, its precise mechanism is still unknown. Anecdotally, it is sustained not only by structural and functional changes in the organ it affects but also by damage to distant organs. There are numerous studies about efficient agents to prevent ischemia-reperfusion injury. The purpose of this report is to illustrate the effect of proanthocyanidin on ischemia-reperfusion injury.

Methods:

In our study, 18 Wistar Albino rats were randomly separated into three equal groups. In all groups, ketamine anesthesia was applied prior to midline laparotomy(100 mg/kg). In the control group (Group C), a midline laparotomy was the sole surgical procedure without any additional intervention. In the Ischemia-reperfusion group(Group IR), the infrarenal aorta was left clamped after midline laparotomy for 1 hour and then the clamp

was removed. Reperfusion was established for the next 1 hour. The third group was the Ischemia-reperfusion group with proanthocyanidin (Group IR-PRO). After following the same steps in the IR, proanthocyanidin was given 10 mg/kg intraperitoneally 30 minutes before the ischemia period. After 2 hours of follow-up, subjects' skeletal muscle tissue and intracardiac blood samples were collected.

We evaluated the parameters seen in Table 1 in muscle tissues and blood samples. Kolmogorov-Smirnov, Kruskal-Wallis, Bonferroni Correction, and Mann-Whitney U tests were performed for statistical analysis. A statistical value of less than 0.05 was considered significant.

Results:

Table 1

P**: Kruskal Wallis test, the significance level of p< 0.05

*p<0.05: Compared with Group IR

& p<0.05: Compared with Group C

Figure 1

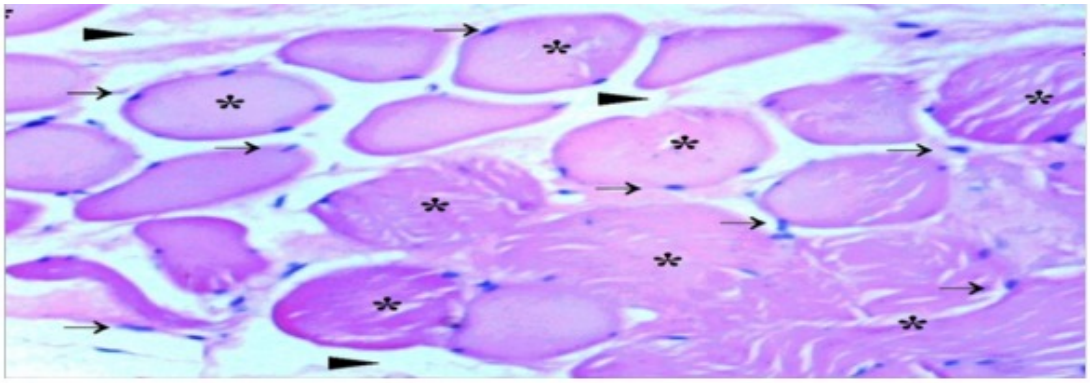

Figure 1:Group IR-Pro muscle tissue →peripheric squamous nucleus, *:muscle fiber ▸intercellular space

Conclusion:

In the light of these findings, our study showed the preventative role of proanthocyanidin administration before ischemia-reperfusion injury in rats.Future researches are required to validate our findings.

| | Group C (n=6) | Group IR (n=6) | Group IR-Pro (n=6) | P** |
|---|---|---|---|---|
| Muscle atrophy hypertrophy | 0.17±0.17* | 1.33±0.21 | 0.50±0.22* | 0.003 |
| Muscle degeneration- congestion | 0.33±0.21* | 1.83±0.31 | 0.67±0.21* | 0.002 |
| The Internalization of muscle nuclei -Oval-central nucleus | 0.17±0.17* | 1.50±0.22 | 0.83±0.17*,& | 0.001 |
| Fragmentation -hyalinization | 0.33±0.21* | 1.83±0.31 | 0.83±0.31* | 0.006 |
| Leukocyte cell infiltration | 0.33±0.21* | 1.50±0.22 | 0.50±0.22* | 0.004 |
| TBARS (nmol/mg pr) | 26.58±5.58* | 62.27±3.76 | 34.00±4.73* | <0.0001 |
| CAT (IU/mg pr) | 8.73±1.09* | 5.16±0.51 | 8.21±0.67* | <0.0001 |

ID: **264**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# MONTELUKAST ATTENUATES ABDOMINAL AORTIC ANEURYSM IN RATS: AS ANTIINFLAMMATUAR AND ANTIOXIDAN EFFECT

**Gözde TEKIN**

*Dr Siyami Ersek Hastanesi, İstanbul, Turkey*

Objective: Since oxidative stress and inflammation are the major factors that cause abdominal aortic aneurysm (AA). The aim of this study was to investigate the possible protective effects of montelukast against abdominal aortic aneurysm (AA) in rats.

Methods: Sprague-Dawley rats were divided into three groups. In order to induce AA, a CaCl2 model was used. Gauze pre-soaked in 0.5M CaCl2 was directly applied to the adventitia of the infrarenal abdominal aorta for 15 minutes. After the surgery, animals received montelukast intraperitoneally (10 mg/kg/day) for four weeks. At the end of the study, the rats were decapitated and the infrarenal aorta tissue samples were taken for the measurement of Matrix metalloproteinase-2 and 9 (MMP-2 and MMP-9) protein expressions, Myeloperoxidase (MPO) activities, 8-hydroxy-2'-deoxyguanesine (8-OHdG) levels. Tissue antioxidant status was evaluated by measuring superoxide dismutase (SOD) activity. Furthermore, histological studies were performed At the end, all data was evaluated with GraphPad Prism v.5 statistic program.

Results: CaCl2 caused inflammatory response and oxidative damage indicated by rises in 8-OHdG levels; also MPO activities are increased while SOD levels were reduced.. Moreover MMP-2, MMP-9 protein expressions were found to be increased in AA group. On the other hand montelucast treatment reversed all these biochemical indices, as well as histopathological alterations.

Conclusion: Montelukast reduced CaCl2 induced inflammation and aortic tissue damage. The protective effects of montelukast anti-inflammatory agent can be attributed to its ability to inhibit MMP-2 and MMP-9 expression, to inhibit neutrophil infiltration, to balance oxidant–antioxidant status, It is suggesting a future role in the treatment of abdominal aortic aneurysms.

ID: **33**

Topic: **Cardiovascular Surgery > Peripheral artery disease and treatment**

Presentation Type: **Oral**

# OUR EXPERIENCE WITH STEM CELL APPLICATIONS IN PATIENTS WITH ADVANCED PERIPHERAL ARTERIAL DISASE

**Sefer USTA**

*health science university, Trabzon, Turkey*

Objective: To assess the results of stem cell applications in patients with peripheral arterial disease who could not undergo surgical treatment due to advanced stage ischemia.
Study Design: Patients who could not undergo revascularization due to distal vascular insufficiency were recruited into this study between June 2009 and 2015. Stem cells obtained via bone marrow aspiration were utilized in 30 patients (17 male, 13 female; mean age, 56.2 y), and stem cells obtained from abdominal fat tissue were utilized in another 30 patients (22 male, 8 female; mean age, 58.9 y). Twenty patients with similar clinical symptoms who received medical treatment only comprised the control group for comparisons.

Results: Stem cells were harvested from the bone marrow under local anesthesia, while general anesthesia was used for collecting stem cells of adipose tissue origin. Cells collected from each patient were processed in mobile units and were ready to use within approximately 1 hour. The harvested stem cells were administered percutaneously via intramuscular injections into the target tissues, conforming to vascular anatomy. Clinical status, ankle-brachial indices, pulse oximetry, and walking distance with exercise test were assessed at 1, 3, and 6 months after the procedures.
Conclusions: Stem cell applications performed in patients unfeasible for revascularization appear to be associated with improvements in clinical symptoms, quality of life, and walking distance. We believe that this therapy may help reduce the rate of amputation.

**Oral Presentation Session**

**What Is New In Valvular Surgery?**

**Date: 01.12.2022 Time: 17:00-18:00 Hall: 5**

ID: **54**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

# THE EFFECT OF AORTIC VALVE REPLACEMENT ON ACCOMPANYING NATIVE VALVE PATHOLOGIES IN PATIENTS UNDERGOING ISOLATED AORTIC VALVE REPLACEMENT DUE TO AORTIC STENOSIS.

**Abdullah GÜNER, Mehmet IŞIK**

*Necmettin Erbakan University Meram Faculty of Medicine Hospital, Konya, Turkey*

| Patient Characteristics | Frequency (N) | Percent (%) | Frequency (N) | Percent (%) |
|---|---|---|---|---|
| - | - | Preoperative | - | Postoperative 1 st year |
| MS (hemodynamic insignificant) | 25 | 10,0 | 30 | 12,0 |
| MS (Middle) | 2 | 0,5 | 2 | 0,5 |
| MR: 1 | 3 | 1,0 | 2 | 0,5 |
| MR: 1-2 | 22 | 9,0 | 5 | 2,0 |
| MR: 2 | 14 | 5,5 | 7 | 3,0 |
| MR: 2-3 | - | - | 4 | 1,5 |
| TR:1 | 3 | 1,0 | 2 | 0,5 |
| TR: 1-2 | 3 | 1,0 | 4 | 1,5 |
| TR:2 | 7 | 3,0 | 6 | 2,5 |
| TR: 2-3 | - | - | 2 | 0,5 |
| Aortic Stenosis Middle | 16 | 6,5 | - | - |
| Aortic Stenosis Severe | 233 | 93,5 | - | - |
| AR: 1 | 190 | 76,2 | - | - |
| AR:2 | 59 | 23,8 | - | - |
| Valvular: Min | - | - | 209 | 84,0 |
| Valvular AY:1 | - | - | 5 | 2,0 |
| Valvular AY:1-2 | - | - | 2 | 0,5 |
| Paravalvular AR:2 | - | - | 4 | 1,5 |
| Bicuspid Aorta | 14 | 5,5 | | |
| Ascending Aorta Diameter (cm) | Mean±SD | 4,04±0,30 | Mean±SD | 4,22±0,30 |

OBJECTIVE: Accompanying valve pathologies that do not require surgical intervention can be seen in patients operated for aortic valve stenosis. In this study, it was aimed to examine how much other accompanying native

valve pathologies change at the end of the first postoperative year in patients who underwent aortic valve replacement due to isolated aortic stenosis.

METHODS: Patients who underwent isolated aortic valve replacement due to aortic stenosis in our clinic between 2010 and 2021 were retrospectively analyzed. A total of 360 patients were examined. Of these patients, those who underwent reoperations, additional procedures (CABG, ascending aortic replacement, root augmentation, etc.), those under 18 years of age, pregnant women, emergency patients, infective endocarditis and patients with a main diagnosis of aortic failure were excluded from the study. 249 patients were included in the study. Preoperative and postoperative 1. year transthoracic echocardiography (ECHO) changes of the patients were compared.

RESULTS: 41.7% (n=104) of the patients were female and 58.3% (n=145) were male. Mechanical valve was used in 98 patients (39.2%), biological valve with stent was used in 66 patients (26.6%), and suture less valve was used in 85 patients (34.2%). In the preoperative ECHO of the patients; Mitral stenosis of varying degrees in 27 patients (10.5%), mitral insufficiency of varying degrees in 39 patients (15.5%), tricuspid regurgitation in 13 patients (5%), bicuspid aorta and ascending aorta diameter in 14 patients (5.5%) It was determined as 4.04±0.30 cm. Postoperative 1st year ECHO findings; Mitral stenosis of varying degrees was found in 32 patients (12.5%), mitral insufficiency of varying degrees in 14 patients (5%), tricuspid regurgitation of varying degrees in 18 patients (7%), and the ascending aortic diameter was 4.22±0.30 cm. Postoperative 1st year minimal valvular aortic insufficiency in 209 patients (84%), first-degree valvular insufficiency in 5 patients (2%), one-second degree valvular insufficiency in 2 patients (0.5%), and second-degree paravalvular insufficiency in 4 patients (1.5%) was observed. It was determined that there was no problem in 30 patients (12%).

CONCLUSIONS: After aortic valve replacement, it was observed that the rate and number of mitral regurgitation (from 15.5% to 7%) of the patients decreased. We believe that this result is related to the decrease in volume load after aortic valve replacement. No significant improvement was observed in other native valve problems.

ID: **16**

Presentation Type: **Oral**

# BIOLOGICAL VERSUS MECHANICAL PROSTHESIS FOR VALVULOPATHY IN DIALYSIS-DEPENDANT PATIENTS: A META-ANALYSIS.

**Alexander REYNOLDS**[1], Sanjay ASOPA[2], Amıt MODI[3], Rhıannon OWEN[1]

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[2]*Southwest Cardiothoracic Centre, Plymouth, United Kingdom*

[3]*Sussex Cardiac Centre, Brighton, United Kingdom*

BACKGROUND

Debate continues for prosthesis choice in dialysis-dependant patients undergoing valve replacement. Biological valves have been implanted in cases of poor long-term survival, circumventing the warfarin burden. Conversely, mechanical prosthesis is indicated in those who would otherwise outlive the durability of a bio-prosthetic. Our aim is to reach consensus using the current data available.

METHODS

Literature searches were performed to identify studies for abstract screening. Included studies were compared to identify common outcomes, and data for such outcomes were pooled using Review Manager 5.3. Heterogeneity and publication bias were reviewed, and statistical adjustments were made.

RESULTS

Fourteen retrospective studies were included, providing sixteen outcomes for data-pooling. 5-year survival was significantly less in the bioprosthetic than the mechanical group (21.6% versus 32.6% respectively, $p < 0.0001$. $I2 = 21\%$). Postoperative mortality was insignificant between both groups, alongside mediastinitis, sepsis and AF. The late incidence of stroke, gastrointestinal morbidity and venous thromboembolism were also insignificant.

CONCLUSIONS

The retrospective data for the topic predisposes our conclusions to poor internal validity. Long-term survival with mechanical prosthesis may be attributed to a significantly younger population. With insignificant difference in all other outcomes between both groups, we recommend surgeon's decision in the context of patient presentation and interests.

ID: **128**

Topic: **Cardiovascular Surgery > Minimally invasive mitral valve surgery**

Presentation Type: **Oral**

# MINIMALLY INVASIVE SINGLE OR MULTIPLE VALVE SURGERY: "THE MIAMI METHOD"

**Mugisha KYARUZI**[1], Harun GÜLMEZ[2], Hakki Kürşat ÇETIN[3]

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[3]*şişli etfal hamidiye eğitim ve araştırma hastanesi, istanbul, Turkey*


Postop
Mitral valve Repair


Minimally invasive cardiac surgery is emerging as a routine approach for treatment of valve diseases in many centers around the globe. The advantegeous of minimally invasive cardiac surgery includes quicker recovery, shorter intensive care unit(ICU) stay,shorter hospital stay with less morbidity and mortality. The approach for minimally invasive valve surgery involve right minithoracotomy with the aid of port camera or robotic assisted. These approaches have been mostly used in treatment of single valve surgery with limited double or triple valve surgery. This is why we are adopting miami method as the approach for treating of all aspects of valve surgery under direct vision either with standard instruments or long shaft instruments. Miami method does not require the use of port camera or robotic assisted. In our experience we have performed single,double and triple valve surgery via miami method with good postoperative results. For this reason we think that miami method is feasible and can be routinely performed with better postoperative results.

ID: **181**

Topic: **Cardiovascular Surgery > Minimally invasive aortic valve surgery**

Presentation Type: **Oral**

# SHORT-TERM RESULTS OF MINIMALLY INVASIVE AORTIC VALVE REPLACEMENT

**Gleb KIM**, Vıktor PIAGAI, Maxim STOLIAROV, Maxim KAMENSKIKH, Dmitry SHMATOV

*Saint Petersburg State University Hospital, Saint Petersburg, Russia*

BACKGROUND

For the past 50-60 years, median sternotomy has been the gold standard in cardiac surgery with good early and long-term results. However, the development of cardiac surgery in the last 20-30 years has indicated an interest in minimally invasive interventions on the aortic valve and aorta. The main motivation for the development of this direction was the cosmetic effect, reduction of pain syndrome and risk of instability of the sternum, reduction of duration of hospital stay. Our Center has become one of the leaders in minimally invasive prosthetics of the aortic valve in our region, and therefore the presentation of our own results seems relevant.

METHODS

The retrospective study included patients who underwent isolated aortic valve replacement since January 1, 2016 to July 1, 2022. The patients were divided into 2 groups, group-1 - 54 patients with upper j-sternotomy and group-2 – 55 patients with standard median sternotomy.

RESULTS

There were no statistically significant differences in age, anthropometric data, and concomitant diseases. There were no conversions to standard median sternotomy with minimally invasive intervention. Postoperative bleeding – 5.6% (3 cases) in group-1 and 5.5% (3 cases) in group-2, $p>0.05$; hydropericardium followed by pericardiocentesis – 1 case in group-1 (1.9%) and in group-2 (1.8%), $p>0.05$; drainage losses in group №1, 452±78, and in group-2,623±54, $p<0.05$; acute cerebral circulation disorders in group-1 – 1.9% (1 case), in group-2 - 3.6% (2), $p>0.05$; failure of postoperative sutures of superficial wound– 1 (1.9%) in group-1 and 3 (5.5%) in group-2, $p>0.05$. Hospital mortality was 0% in both groups.

CONCLUSIONS

Minimally invasive replacement of the aortic valve using an upper j-ministernotomy is a safe and feasible access. The use of minimally invasive access allows to achieve a reduction in the volume of blood loss through drains, as well as improve the cosmetic effect. The long-term results including the stability of the sternum and the stage of rehabilitation require further investigation.

ID: **99**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

# 10 YEARS EXPERIENCE WITH AORTIC VALVE SURGERY IN QATAR. RETROSPECTIVE ANALYSIS

**Dina ALWAHEIDI**[1], Laith TBISHAT[2], Mohamed EL-KAHLOUT[2], Tamer ABDELGHAFOOR[2], Hatem SARHAN[3], Mohd WANI[3], Rajvir SINGH[3], Ali KINDAWI[3], Abdulwahid AL-MULLA[3]

*[1]Hamad medical corporation , DOHA, Qatar*

*[2]HMC, Doha, Qatar*

*[3]Hmc, Doha, Qatar*

BACKGROUND

In the field of valvular heart disease, surgical aortic valve replacement (SAVR) is a well-established procedure. Although transcatheter intervention is being introduced & been postulated to replace SAVR, it remains the first modality of choice for various patient groups, such as patients with coexistent severe multivessel coronary artery disease, diseases of the ascending aorta, and infective endocarditis with a very good clinical outcome.

To date, there is no study done on the outcome of surgical aortic valve replacement in such diverse population as the population of Qatar.

METHODOLOGY

CERNER and DENDRITE database were searched through January 2012 till December 2021 for patients who underwent SAVR for different main indications. End points in the short term at discharge and 30 days and the long term up to 3 years were assessed.

RESULTS

Outcomes included all-cause mortality, cardiovascular and non-cardiovascular mortality, 30-day operative mortality, sudden cardiac death (SCD), heart failure hospitalization (HFH), myocardial infarction (MI), need for pacemaker, atrial fibrillation, renal failure and stroke. Results: A total of 400 patients were included. The mean age was 55 years, and the median follow-up duration was 3 years. Male was the predominant sex. SAVR was part of a combined procedure in 33.25% of the reviewed registry. Pre-operative Ejection fraction (EF) was less than 50 % in 32.5 % with an ejection of less than 30 % in 4.21, with an average EUROSCORE 4.5 % Predominant aortic valve pathology was aortic stenosis due to rheumatic heart disease in 30 % of the cohort with bicuspid etiology in 12.5 %. Overall all-cause mortality was 3.25% permanent stroke rate was 1.25%. of these 10 % were biologic valve. 8 patients (2%) required pacemaker in the immediate postoperative period before discharge. Long term outcomes up to years was completed in 200 patients in the time period.

CONCLUSION

In the diverse population of Qatar, surgical aortic valve replacement occurred in a younger population mostly of Asian origin; carried a lower overall mortality, stroke & the need for Parment pacemaker rates. Bicuspid valve incident is also more than what is reported in the literature. Moreover, combined procedure or etiology were not associated with higher observed or relative mortality.

ID: **100**

Topic: **Cardiovascular Surgery > Minimally invasive mitral valve surgery**

Presentation Type: **Oral**

# MODIFIED HAIRCUT TECHNIQUE FOR MORE DURABLE MITRAL VALVE REPAIR

**Laith TBISHAT**[1], **Ali KINDAWI**[2]

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Modified Haircut technique for more durable mitral valve repair

Laith Tbishat 1, Dina FA Alwaheidi, Samim Azizi, Tamer Abdelghafoor, Hatem Sarhan, Ali Kindawi

1 Department of Cardiothoracic Surgery, Heart Hospital, Hamad Medical Corporation, Qatar

Abstract

Objective

Mitral valve repair is the gold standard procedure in patients with Mitral regurgitation. Adequate line of leaflet coaptation ensures optimal and durable valve function. We present a novel technique for Mitral valve repair by providing more anatomical accuracy in inserting the Neochordae & reduce the height of the prolapsed leaflet.

Methods

Between January 2019 and February 2022, 16 cases (Mean age of 50 years) were selected for repair with our technique. Patients had diverse valvular pathology; Flail P2 (6 patients), Flail A2 A3 (5 patients) and mixed A2, P2 and P3 prolapse(5 patients). In our method, ruptured chordae ends are shaved while keeping the ends of the chordae attached to the free edge of the leaflet. We use the chordal attachment at the papillary muscle and the edges of the leaflet as guidance for fixation points of the Neochords. Instead of resection of redundant tissue we fold the free edge of the leaflet to about 3-4 mm according to the height of the leaflet, Flexible annuloplasty ring is used in all our mitral valve repairs.

Results

6 patients had isolated valve repair and 10 patients had combined procedure, CABG (n = 5), left atrial appendage closure(n = 2), tricuspid valve repair (n = 2) and one patient had congenital PFO repair. Cardiopulmonary bypass times & Aortic cross clamp times were 134 minutes (±SD24.2) & 101 minutes (±SD18.6), Respectively. One patients required further repair and two needed re-exploration for bleeding.

Conclusion

This technique modification is a simple reproducible method for Mitral valve repair effective for repair of the posterior, anterior and bileaflet disease. It provides secure and durable repair by saving the tissues of the valve and adjustments guided by the anatomy of the patient.

Transaortic cardioscopy facilitates LV thrombectomy and avoids ventriculotomy. This is practical for removing of LV thrombus if the thrombus is mobile or pedunculated and if there is no left ventricular aneurysm.

ID: **70**

Topic: **Cardiovascular Surgery > Covid-19 and cardiovascular surgery**

Presentation Type: **Oral**

# TRANSAORTIC CARDIOSCOPIC LEFT VENTRICULAR THROMBECTOMY. A SURGICAL TECHNIQUE

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[2]*Istinye University, Istanbul, Turkey*

OBJECTIVE

Left ventricular (LV) thrombus is a frequent complication of myocardial infarction, dilated cardiomyopathy, and myocarditis. Left ventriculotomy is almost common approach for removal of thrombi and treatment of aneurysm. This approach carry risk like ventricular dysfunction, cardiac arrhythmias, contractile dysfunction, and bleeding. If the thrombus is mobile and pedunculated and if there is no left ventricular aneurysm, left ventriculotomy may not be necessary. We describe a case of endoscopic transaortic left ventricular thrombectomy without ventriculotomy.

METHOD

A 51-year-old male complained of exertional dyspnea, fatigue, and shortness of breath for 5 days. He also had a history of Covid 19 a month ago. He was admitted to ICU for further investigations. He developed transient ischemic attack which appeared as loss of conscious for 5 minutes.

ECHO study revealed 35 % ejection fraction, severe mitral valve regurgitation, mobile pedunculated thrombus which attached to LV apical part measured 3,5x1,5 cm (Video 1). Coronary angiography demonstrated non critic atherosclerotic palques. The patient was prepared for cardiac surgery because of potential recurrent thrombo-embolization.

RESULTS

Under general anesthesia, a median sternotomy was done. There was no left ventricular aneurysm on direct cardiac examination. Left atriotomy was done and left ventricular cavity was checked through mitral valve. There was fresh thrombi attached to left ventricular apex. It was hard to remove the thrombi via left atrial approach because of mitral chordal engagement.
A transverse aortotomy was made in the ascending aorta. Aortic leaflets were retracted, and LV cavity was examined. A thrombus measuring 3,5 x 2 x 2 cm was removed under direct vision. Endoscopic camera was advanced to left ventricle through the aortotomy incision. One more 1x1x1 cm thrombus was removed from LV apex. Mitral valvuloplasty and ring annuloplasty was done by 30 mm semirigid ring device. Intraoperative transesophageal echocardiogram demonstrated no intracardiac residual mass or thrombi and mild mitral regurgitation.

CONCLUSION

Surgical treatment mostly performed by LV aneurysmectomy if there is aneurysm. But if there is no LV aneurysm, ventriculotomy may cause serious complications. A lot of new intracardiac thrombi case reports were published recently related with Covid 19 infection. And it was remarkable that most of these cases don't have LV aneurysm formation.
Transaortic cardioscopy facilitates LV thrombectomy and avoids ventriculotomy. This is practical for removing of LV thrombus if the thrombus is mobile or pedunculated and if there is no left ventricular aneurysm.

ID: **217**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

# Comparison of Beating-Heart Technique versus Aortic Cross-Clamping in Tricuspid Valve Surgery

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OBJECTIVE: Tricuspid valve surgery is generally considered at high risk of perioperative mortality and poor long-term outcomes because of additional cardiac procedures, high percentage of reoperations and end-stage functional disorders. Surgical procedure can be performed with either beating heart or an arrested heart technique.
Here, we aimed to compare the outcomes of tricuspid valve surgery between two different approaches.
METHODS: Between January 2015 and February 2020, 204 patients underwent tricuspid valve surgery were included to the study. Techniques of arrested heart and beating heart tricuspid surgery were performed to 103 and 101 patients, respectively. Results of the preoperative, postoperative early period and postoperative 6th month were compared between the groups.
RESULTS: There were no differences in demographic characteristics and preoperative grade of tricuspid valve regurgitation between the groups. Duration of mechanical ventilation, intensive care unit and hospitalization were significantly lower in patients operated by using beating heart technique. Re-exploration surgery and mortality rates were also significantly lower in beating heart group. Postoperative sixth month echocardiography findings related to tricuspid valve regurgitation, maximum and minimum gradients of the tricuspid valve and pulmonary arterial pressure were lower in beating heart group.
CONCLUSIONS: Beating heart tricuspid valve surgery can be preferred to arrested heart technique in order to avoid clamp-induced ischemia that may lead to worsening postoperative results.

**Oral Presentation Session**

**New Perspectives In Coronary Surgery** |

**Date: 02.12.2022 Time: 08:00-09:00 Hall: 5**

ID: **281**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# FOREIGN BODY (ANGIOPLASTY GUIDE) IN THE LEFT CORONARY ARTERY : A CASE REPORT.

**Abderrahmene BABOURI**

*Ehs Djaghri mokhtar Constantine, Constantine, Algeria*

**Introduction:** The aim of our work is to show that angioplasty is not harmless complication.
**Methods:** We report the observation of a patient aged 66 years to history of myocardial infractus in 2006 programmed for interventricular artery angioplasty .This last was balanced by failure with rupture of the guide in the left coronary artery which the proximal tip is still floating in the aorta ascandante . He was operated under cardiopulmonary bypass exploration revealed a small interventricular artery non portable with a left intracoronary guide which proximal tip floats in the aorta after aortotomie. The last been removed.
**Results:** The immediate postoperative course was simple.
**Conclusion:** The breakdown of the angioplasty guide is a rare complication but serious .It can cause coronary damage that can cause death .The treatment can be done by surgery.
**Key words:** Foreign body, left coronary, cardiopulmonary bypass.

ID: **293**

Topic: **Cardiovascular Surgery > Perfusion course**

Presentation Type: **Oral**

# THE EFFECTS OF PUMP OXYGENATOR ON HEMOLYSIS DURING ON-PUMP ISOLATED CORONARY ARTERY BYPASS SURGERY

Burçin ÇAYHAN KARADEMIR[1], Ismail YERLI[2], Sibel AYDIN[2], Özlem OGUZHAN[2], Ahmet ZENGIN[3], **Taylan ADADEMIR**[2], Kaan KIRALI[2]

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Abstract

Introduction

Certain degree of hemolysis in inevitable during cardiopulmonary bypass due to blood-foreign material contact. Pump oxygenators have different coatings and membrane surface areas (msa) to diminish this effect on blood cells. A recent analysis by our group revealed lesser blood product use with phosphorylcholine coated oxygenators with smaller membrane surface areas. The aim of this study is to focus on the level of hemolysis by comparing hemolytic products among 4 different pump oxygenators.
Material and methods

324 isolated on-pump coronary artery bypass surgery patients were retrospectively analyzed between August 2018 and September 2019. Demographic, operative and postoperative data including hemolytic products (Lactate dehydrogenase (LDH) and total bilirubine (TB)) were compared according to the type of pump oxygenators used during surgery. Four different types of pump oxygenators were used according to the availability (Group 1: Phosphorylcholine coated – 1.65m2 msa, Group 2: Polyethylene oxide coated, 2.5 m2 msa, Group 3: Phosphorylcholine coated, 1.75m2 msa, Group 4: poly(2-methoxyethyl acrylate) coated, 2.5m2 msa). Blood products were used according to our institutional protocol.
Results

Age, sex, preoperative hematocrit values, mean graft numbers, cardiopulmonary bypass times, cross-clamping times, aortic and venous cannula sizes, patient's temperature, and fluid balance during the operations were similar among groups ($p>0.05$). There was statistically significant intra-operative fresh frozen plasma (FFP) usage and postoperative erythrocyte suspension (ES) and FFP usage ($p<0.05$) in favor of Group 2 and 4. Lesser amount of blood products were used in Group 1 and 3. There was no statistically significant difference between LDH and TB values on postoperative one day and one week between four oxygenator types.

Conclusion

Phosphorylcholine coated oxygenators with smaller membrane surface areas required lesser amount of blood products perioperatively. Our analysis failed to prove hemolysis as a cause of this finding. Larger, randomized controlled studies should be done to clarify the exact mechanism and effect of these findings.

ID: **289**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

## DOES PENTRAXIN-3 LEVELS AID IN RISK STRATIFICATION IN PATIENTS UNDERGOING CABG?

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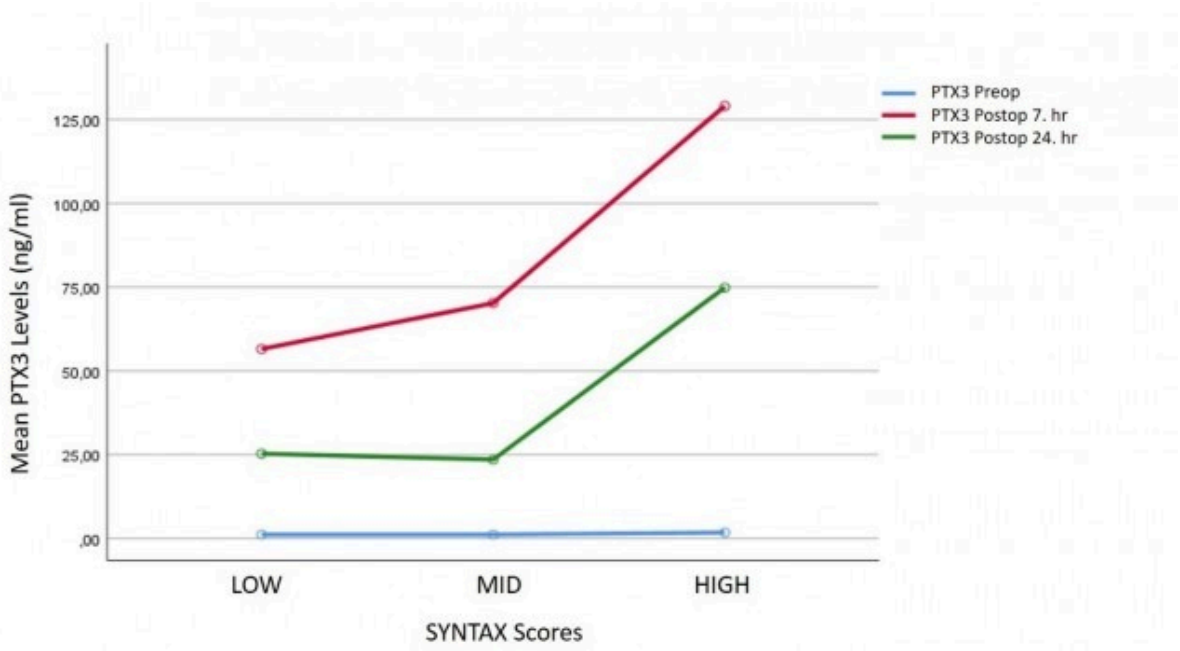
*Hacettepe University, Ankara, Turkey*

**BACKGROUND:** Pentraxin-3 (PTX3) is an inflammatory biomarker in the family of pentraxins, synthesized in cardiac circulation by various cell groups associated with atherosclerosis such as endothelial cells, smooth muscle cells and macrophages. In recent studies, PTX3 is proposed as a prognostic biomarker for cardiovascular mortality. Thus, we aimed to evaluate pre- and post-operative PTX3 plasma levels in patients undergoing elective CABG surgery.

**METHODS:** Between February 2021 and July 2021, 38 patients underwent elective CABG surgery in our unit. Blood samples were collected pre-operatively, at post-operatively 7th hour and at post-operatively 24th hour for evaluation of PTX3 plasma levels as well as other cardiac and inflamatory biomarkers such as Troponin-I, BNP and CRP.

**RESULTS:** Thirty-eight patients (31 males, 7 females) underwent CABG. Mean age was 57.5 ± 11.29 years (range: 27–78 years). SYNTAX scores were found to be high in 51.4%, mid in 35.1% and low in 13.5%. PTX3 cut-off level was 2.0 ng/ml. There was no mortality and morbidity. Mean PTX3 levels were measured as 1.22±0.92 ng/ml preoperatively, 71.15±45.93 ng/ml at postoperative 7th hour and 31.38±31.48 ng/ml at postoperative 24th hour. A positive correlation was observed between PTX3 at 7th and 24th hours postoperatively and SYNTAX scores ($p=0.001$ and $p=0.018$) (Figure-1). Postoperative PTX3 levels were highest in the high SYNTAX score group. This was followed by the medium and low SYNTAX score groups, respectively. Preoperative PTX3

levels were similar in different SYNTAX score groups (p=0.104); there was a significant difference between SYNTAX groups in PTX3 levels at the 7th and 24th hours postoperatively (p=0.024 and p=0.021). There was also a significant positive correlation between hsCRP and PTX3 preoperatively and at postoperative 7th hour (p=0.001 and p=0.002).




**CONCLUSIONS:** In conclusion, we showed that PTX3 level was in similar trend with CRP in terms of postoperative cardiac inflammation. As we did not encounter any morbidity and mortality, we failed to correlate the association of increased PTX3 levels with postoperative complication. However, significant PTX3 increase positively correlated with SYNTAX scores which indicate its role as a useful biomarker in postoperative management plan and risk stratification in the early postoperative period.

ID: **315**

Topic: **Cardiovascular Surgery > Hybrid cardiovascular surgery**

Presentation Type: **Oral**

# HYBRID CORONARY REVASCULARIZATION IN MULTI-VESSEL CORONARY ARTERY DISEASE: 1-YEAR RESULTS

Aliaksandr CHARNIAK, **Vladislav PODPALOV**, Oleg KOZAK, Kiryl RUBAKHOV, Alexey OSTROVSKY

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BACKGROUND. The effectiveness of hybrid coronary revascularization (HCR), combining off-pump coronary artery bypass grafting (OPCAB) and percutaneous coronary intervention (PCI), is a debatable question in modern coronary surgery. Objective of the study: to estimate 1-year outcomes after hybrid coronary revascularization in comparison with conventional OPCAB in patients with multi-vessel coronary artery disease (CAD).

METHODS. 114 consecutive patients with CAD were randomized into 2 groups: 1st group – 69 patients underwent OPCAB resulting in 2-3 grafts through a full sternotomy; 2nd group - 45 patients with performed HCR. HCR consisted of 2 stages: minimally invasive direct coronary artery bypass grafting and later on the 3d day postoperatively PCI stage was performed.

RESULTS: Two groups had no significant differences in main parameters. There were no hospital deaths in both groups. In HCR group there was no need in conversion to cardiac-pulmonary bypass because of hemodynamic instability, early postoperative reoperation due to graft failure, no cerebrovascular accident was seen. The dose of cardiotonic support in intra and early postoperative period was significantly lower ($p<0,05$) in HCR group in comparison with OPCAB group. The level of post-operative high-sensitive troponin I, amount of intraoperative blood loss was significantly lower ($p<0,05$) in HCR group in comparison with OPCAB group. Treatment in ICU after operation was significantly longer ($p<0,05$) in OPCAB group as well as hospital stay length before discharge.12 months later, all patients underwent coronary angiography. In the HCR group, there were no deaths, as well as recurrence of angina pectoris or need for reoperation. 1 patient in the OPCAB group died as a result of recurrent myocardial infarction 3 months after surgery. In the HCR group, the LIMA-LAD anastomosis was inconsistent in 1 case (2%); restenosis in the area of a previously PCI was observed in 2 patients (3% of all stents). In the OPCAB group, dysfunction of the grafts was detected in 13 patients (failure of 2 LIMA-LAD anastomoses and 12 anastomoses using the saphenous vein graft (in 1 case, 1 patient had 2 incompetent vein grafts), that meant 8,8% of all performed anastomoses, which was a significantly higher number in comparison with HCR group ($p<0,05$).

CONCLUSIONS: Hybrid coronary revascularization can offer superior one-year outcomes in comparison with conventional off-pump coronary surgery.

ID: **36**

Topic: **Cardiovascular Surgery > Covid-19 and cardiovascular surgery**

Presentation Type: **Oral**

# BENIGN OUTCOMES IN TWO HEART TRANSPLANT PATIENTS WITH COVID 19 PNEUMONIA

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Benign Outcomes in Two Heart Transplant Patients With COVID 19 Pneumonia

OBJECTIVE:We report here two consecutive COVID-19 pneumonia in our post-heart transplant patients 13 years and 15 years after the transplantation during the pandemic. COVID-19 pneumonia were confirmed clinically and by thorax CT in both of the cases. Due to severe symptoms and the high-risk condition of the patients, they were immediately admitted to the hospital and standard COVID-19 treatment protocol with oral favipravir and low molecular weight heparin were applied to both patients. None of them was needed to transfer to intensive care unit and responded immediately to medical treatment and observation in regular COVID-19 ward. No alterations in their immunosuppressive therapy was applied during their stay in the hospital and none of them had cytokine storm during their stay in the hospital. Echocardiography of both patients shown normal left and right ventricular functions with no myocardial depression or sign of pulmonary hypertension. Patients were discharged at fifth and tenth days of diagnosis, respectively, as COVID-19 negative PCR and asymptomatic status.

METHODS:

| **Clinical information** | **Explanation Case 1** | **Explanation Case 2** |
|---|---|---|
| Personal information | Female, 66 years old | Male, 60 years old |
| Complaint | Weakness nausea and fatigue | Cough and chill |
| Comorbidities | Hypertension | Hypertension |
| Medical history | MI in 2000, CABG in 2003, heart tx in 2009 | HCM in 2006, heart tx in 2007 |
| Immunosuppression | Mikofenolat mofetil 2x500 mg, Takrolimus 1x2,5 mg | Mikofenolat mofetil 2x1000 mg, Takrolimus 1x5 mg |
| Physical examination | Fever: 36,7, SatO2: 98, RR: 16 | Fever: 7, SatO2: 96, RR: 18 |
| RT-PCR | Nasopharyngeal swab positive | Nasopharyngeal swab positive |

| | | |
|---|---|---|
| Thorax CT | Ground-glass opacities in the lower lobe of the left lung | No specific findings |
| Treatment | Favipravir 2x1600 mg first day,after each day 2x600 mg oral, Enoxaparin 1x40 mg subcutan, for five days | Favipravir 2x1600 mg first day,after each day 2x600 mg oral, Enoxaparin 1x60 mg subcutan, for five days |

Table: Clinical characteristics of heart transplant patients with COVID-19 pneumonia

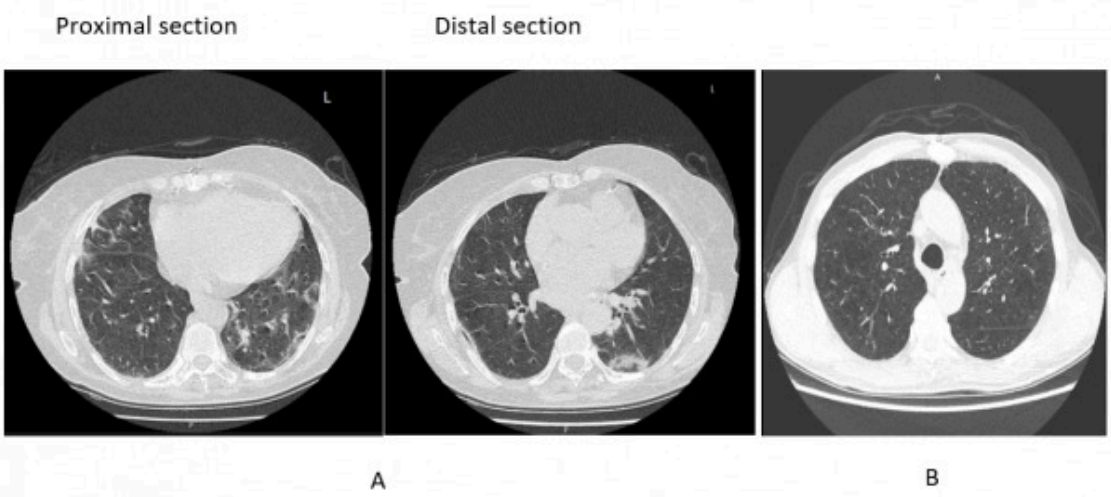


Figure 1: A: Case 1, Two different cross-sectional views of the ground glass areas, especially seen in the left lung, B: Case 2, Emphysema and bronchial enlargement were observed in thorax CT.

RESULTS: These cases showed us that Heart transplant recipients may have similar clinical presentation and progression to non-transplant recipients. In addition, in these cases, the use of immunosuppression drugs are not an aggravating factor for the clinical course. In China, COVID-19 pneumonia was detected in two different heart transplant recipients. These cases may represent of COVID-19 in heart transplant recipients and suggest that presentations and prognosis appear to be similar to those observed in non-transplant recipients. But they also associated radiological resolution with clinical well-being and the regression of radiological lesions in the lung was accepted as one of the healing criteria . In this regard, further quantitative criteria are needed as indicator of positive response for treatment of COVID-19 pneumonia and more epidemiological studies would be useful for the association of COVID-19 with organ transplant patients

CONCLUSIONS: The resulting studies show that the spectrum of the disease caused by the new type of coronavirus (2019-nCoV, SARS-CoV-2) is variable from the common cold to Severe Acute Respiratory Syndrome (SARS). Advanced age, immunosuppression (transplantation, immunosuppressive drug users), cardiovascular disease, hypertension is among the serious risk factors in COVID-19 pneumonia. In this article, we report the heart transplant recipient we detected with COVID-19 pneumonia.

Immunosuppression in heart transplant patients may be a favorable factor during covid pneumonia. The absence of potential risks of immunosuppression in our cases seems to be another positive predictive factor. Hypertension and immunosuppression were observed in both cases. However, in the second case, the Biontech vaccine may be effective in a milder course of lung disease. In this article, we emphasized a relatively mild clinical course of COVID pneumonia in heart transplantation patients under immunosuppression therapy.

ID: **291**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# THE EFFECTS OF PUMP OXYGENATOR ON BLOOD PRODUCT USAGE DURING ON-PUMP ISOLATED CORONARY ARTERY BYPASS SURGERY

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Abstract

Introduction

Cardiopulmonary bypass pump oxygenators have the potential to affect postoperative blood usage by various mechanisms. They have different coatings and membrane surface areas (msa) which alter their behavior on blood cell and factor protection. The aim of this study is to compare pump oxygenators by means of postoperative blood product need.

Material and methods

324 isolated on-pump coronary artery bypass surgery patients were retrospectively analyzed between August 2018 and September 2019. Demographic, operative and postoperative data were compared according to the type of pump oxygenators used during surgery. Four different types of pump oxygenators were used according to the availability (Group 1: Phosphorylcholine coated – 1.65m2 msa, Group 2: Polyethylene oxide coated, 2.5 m2 msa, Group 3: Phosphorylcholine coated, 1.75m2 msa, Group 4: poly(2-methoxyethyl acrylate) coated, 2.5m2 msa). Blood products were used according to our institutional protocol.

Results

Age, sex, preoperative hematocrit values, mean graft numbers, cardiopulmonary bypass times, cross-clamping times, aortic and venous cannula sizes, patient's temperature, and fluid balance during the operations were similar among groups ($p>0.05$). There was statistically significant intra-operative fresh frozen plasma (FFP) usage and postoperative erythrocyte suspension (ES) and FFP usage ($p<0.05$) in favor of Group 2 and 4. Lesser amount of blood products were used in Group 1 and 3.

Conclusion

Phosphorylcholine coated oxygenators with smaller membrane surface areas required lesser amount of blood products perioperatively in this relatively small retrospective study. Larger, randomized controlled studies should be done to clarify the exact mechanism and effect of these findings.

ID: **53**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

## PROTECTIVE EFFECTS OF FUZILINE ON DOBUTAMIN-INDUCED HEART DAMAGE IN MICE

**Yasemin HACANLI**, Mehmet Salih AYDIN, Ezhar ERSÖZ, Nazım KANKILIÇ

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Objectives: Many drugs and antioxidants are being tested for the treatment of cardiac damage. Fuziline is also included in these antioxidant substances. In our study, the histopathological and biochemical effects of fuziline were investigated in mice with heart damage mediated by dobutamine in vitro.

Methods: 32 adult male balb-c mice with an average weight of 18-20 g were randomly divided into four groups. Group 1 (Sham, n=8), Group 2 (Control, Dobutamine, n=8), Group 3 (Treatment 1, Dobutamine + Fuziline, n=8), Group 4 (Treatment 2, Fuziline, n=8). Biochemical parameters and TAS, TOS and OSI values were measured in serum samples. IL-1β, NLRP3, 8-OHDG, GSDMD and GAL-3 levels were analyzed by ELISA method and histopathological examination of heart tissues was performed.

Results: There was a statistically significant difference between the groups in creatinine, Troponin-1, NLRP3, GSDMD, 8-OHDG, IL-1β, GAL-3 TOS, TAS and OSI values ($p<0.05$, $p<0.001$). Troponin-I ($p<0.05$), NLRP3 ($p<0.001$), GSDMD ($p<0.001$), 8-OHDG ($p<0.001$), IL-1β ($p<0.001$), GAL- 3 ($p<0.05$) are statistically significant between dobutamine+ fuziline and fuziline groups. TOS levels were highest in the dobutamine group ($p<0.001$) and TAS levels was highest in the fuziline group ($p<0.001$). OSI levels were statistically significant between the groups in parallel with TAS and TOS values ($p<0.001$). In the histopathological examination, focal necrosis areas were encountered less in the dobutamine+fuziline group than in the dobutamine group, and it was seen that cardiac myocytes were better preserved.

Conclusion: Fuziline markedly reduced cardiac damage and pyroptosis in mice with dobutamine-induced heart damage by lowering the levels of GSDMD, 8-OHDG, IL-1β, GAL-3. It also prevented necrosis of cardiac myocytes in histopathological evaluation.

Key words: Fuziline, Dobutamine, Antioxidant, Cardiovascular Diseases, Myocardial damage.

## Oral Presentation Session

## Hints For Overcoming The Stumbling Blocks In Pediatric Cardiac Surgery

## Date: 02.12.2022 Time: 09:15-10:15 Hall: 5

ID: **322**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# SINGLE CENTER EXPERIENCE OF LEVOSIMENDAN USE IN PEDIATRIC CARDIAC SURGICAL PATIENTS REQUIRING VA-ECMO

**Safak ALPAT**, **Nazlı Melis COŞKUN**, Kıvanç TERZI, Selman KESICI, Benan BAYRAKÇI, Mustafa YILMAZ

*Hacettepe University School of Medicine, Ankara, Turkey*

Background and Aim

VA-ECMO has recently become standard of care in pediatric patients who experience post-cardiac surgery myocardial depression and LCOS refractory to conventional management. Despite its common use; we still need new therapies to achieve more succesful weanings, hospital discharges and survival. Recently, levosimendan was reported to be succesfull agent in adult patients requiring VA-ECMO after cardiac surgery. Here, we present our experience with levosimendan in pediatric patients requiring VA-ECMO after cardiac surgery.

Methods

Between 2014 and 2022, 108 pediatric patients undergoing cardiac surgery required VA -ECMO support in our unit. Pre-, intra, and post-operative data were collected and analyzed. Relevant statistic methods were utilized.

Results

108 patients (61 males, 47 females) required VA-ECMO support after cardiac surgery. Mean age was 2.99 ± 4.77 years (range: 2 days – 18 years). Indications were failed weaning from cardiopulmonary bypass, 57/108 (53%); low cardiac output state, 29/108 (27%); extracorporeal cardiopulmonary resuscitation, 22/108 (20%). Levosimendan was used in 64/108 (59%) patients. Of those patients, succeful weaning was achieved in 38 (59%) whereas 23 patients weaned off ECMO without levosimendan (23/44, 52%). Difference was not statistically significant. However, discharge from hospital after succesful weaning was achieved in 34 patients. Of those patients, 25 (73%) had levosimendan and difference was statistically significant (p = .042). We did not encounter any side effects related to levosimendan use in the cohort.

Conclusion

In conclusion, this study indicates that levosimendan did not significantly increased the weaning rate in pediatric cardiac surgical patients requiring VA-ECMO. It is well known that many factors including residual lesions influence the rate of weaning of ECMO support in children. Thus, we believe it is difficult to assess levosimendan's potential role in ECMO weaning rate after cardiac surgery in children. Nonetheless, weaned patients' discharge rate was better in levosimendan group and it supports levosimendan use in this cohort to achieve survival after ECMO weaning.

ID: **310**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# ROUTINE USE OF INTRA-EXTRACARDIAC FONTAN TECHNIQUE IN SINGLE VENTRICLE PALLIATION PATHWAY

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Background and Aim

Intra-extracardiac Fontan (IECF) technique was popularized by Jonas in 2008 and its various advantages over extracardiac and lateral tunnel Fontan types especially in patients with systemic venous variations and hetertotaxy. Herein, we report our experience of this modification in all patients in single ventricle pathway.

Methods

Between 2015 and 2022, 51 patients underwent IECF in our unit. Pre-, intra, and post-operative data were collected and analyzed.

Results

Fifty-one patients (28 males, 23 females) underwent IECF. Mean age was 11.3 ± 12 years (range: 4–26 years). LV was the dominant ventricle in 73% of patients whereas RV was dominant in 27%. 40% of patients had some form of heterotaxy. …. patients were previously assigned as inoperable because of their complex anatomy. Mean mPAP was 12.1 ± 2.7 mmHg. #16 conduit was used in 2, #18 in 13, #20 in 27, #22 in 7 and #24 in 2. Mean CPB and ACC time were 127.1 ± 13.4 and 76.7 ± 2.1, respectively. Median fenestration size was 4 mm (2 to 5 mm). Mean extubation time was 12 ± 2.1 h. Mean ICU stay and drainage days were 6.2 ± 0.7 and 15.8 ± 0.7, respectively. Median follow-up was 3 years (3 months to 7 years) . There were 2 early deaths and 2 late deaths (12 and 15 months postop).

Conclusion

Early results of IECF technique is encouraging not only in patients with systemic venous anomalies and heterotaxy, but also in all other subsets of patients in single ventricle pathway. We believe unrestrticted-patent fenestration and additive effect of atrial kick positively affects Fontan hemodynamics. Particularly patients were previously deemed to be inoperable because of their complex anatomy would benefit from this technique.

ID: **308**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# SURGICAL REPAIR OF COR TRIATRIATUM: SINGLE CENTER EXPERIENCE

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*[2]Department of Cardiovascular Surgery, Gazi University, Ankara, Turkey*

Objective

Cor triatriatum is a rare congenital cardiac anomaly accounting for 0.1% of all congenital cardiac malformations. In the most common form, cor triatriatum sinister, the left atrium is divided into a proximal and distal chamber by a diaphragm with restrictive ostia. Cor triatriatum dexter is described as subdiveded right atrium because of the persistance of the right valve of sinus venosus. We presented eleven cases with cor triatriatum between 2005 and 2022 with respect to diagnosis and operative results.

Patients and Methods

Eleven patients, whose age ranged from 3 months to 14 years, underwent surgical correction of cor triatriatum between May 2005 and July 2022. All patients were symptomatic preoperatively. The common symptoms were congestive heart failure, recurrent pneumonia and failure to thrive. The 2-D echocardiogram demonstrated a diaphragm in the left or right atrium in eight patients. However, atrial diaphragms were seen during the operation in the others. All patients underwent cardiac catheterization before surgery and all had moderate to severe pulmonary hypertension. Right atriotomy was done in all patients. A left atriotomy approach, medial and superior to the right pulmonary veins, was performed in patients with cor triatriatum sinister. Right atrial or left atrial membrans were resected. If present, additional surgical repair was performed according to the accompanying anomaly.

Results

One patient who was operated at the age of 3 months died due to postoperative low cardiac output and multiorgan failure. This patient, who had preoperative signs of severe heart failure, underwent complete correction surgery for complete AVSD, and the diagnosis of cor triatriatum was made intraoperatively. No postoperative complications were observed in any of the other patients. After a mean follow-up period of 52.1 ± 43.6 months (range, 2–139 months), all patients were in New York Heart Association functional class I. No patient had a residual interatrial shunt or recurrence of the diaphragm between the common pulmonary venous chamber and the true left atrium.

Conclusion

Treatment of cor triatriatum is primarily surgical. There are only few reports of successful balloon catheter dilation of the communication between the proximal and distal chambers. In the cases of cor triatriatum the membrane must be resected in order to relieve the obstruction to the blood flow. The urgency of operation is primarily determined by the severity of the presenting symptoms.

ID: **305**

Topic: **Cardiovascular Surgery > Surgery for abdominal aortic aneurism**

Presentation Type: **Oral**

# SURGERY OF CONGENITAL ABDOMINAL AORTIC ANEURYSM AND LEFT RENAL ARTERY ANEURYSM IN A 5-YEAR-OLD BOY

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Objective

Congenital abdominal aortic aneurysm is a rare disease with unknown etiology. The common causes include mycotic aneurysms, vasculitides, connective tissue diseases and traumatic aneurysms. Common symptoms are abdominal pulsatile mass and pain. Timing of surgery should be weighed against size and location of aneurysm, presence of dissection and risk of rupture. Renal artery aneurysms are rare in children too. They are commonly associated with hypertension, abdominal pain and haematuria. In this case, we present the surgical treatment of abdominal aortic aneurysm and renal artery aneurysm in a 5-year-old boy.

Methods

A 5 year old boy was admitted to hospital with headache and recurrent nosebleeds. During investigations, his blood pressure was found to be high (160/100 mmHg). Doppler USG revealed left renal artery(LRA) and abdominal aortic aneurysm(AAA). Ct confirmed 9x9 mm aneurysm on the anterior surface of the abdominal aorta at the level of the LRA and 12 mm aneurysm in the LRA. The patient had no family history of aneurysm, connective tissue disorders, trauma, umbilical cannulation and infection. After diagnosis was finalized, surgical treatment was decided due to the risk of rupture and presence of hypertension.

Results

At the operation, after surrounding tissues were freed, the aneurysmatic aorta and LRA were visualized. After clamping, the aneurysmatic part on the anterior surface of the aorta was resected. Since the aortic tissue corresponding to this region at the posterior side was intact, the aorta was repaired with PTFE patch. We then used homogreft saphenous vein graft which was taken from his father with simultaneous operation to replace the LRA. We also anastomosed the renal superior pole artery to the saphenous vein. During anastomosis period, HTK solution was applied to protect the left kidney from ischemia. No intra- postoperative complications occurred. There was no deterioration in the patient's creatinine values and urine output. The patient's blood pressure quickly decreased to the normal range. The patient recovered well after the operation and was discharged on the 18th day. Postoperative doppler USG showed that the renal artery flow velocities were compeletely normal. Surprisingly, no pathological finding was detected in the histopathological examination.

Conclusion

Good outcomes can be achieved in children with early identification of congenital AAA and individualized surgical repair with grafts. For patients at these ages, when minor revascularization is required, biological grafts obtained from their parents should be considered as a good alternative to avoid long-term patency problems related with artificial grafts.

ID: **303**

Topic: **Cardiology > PI for SHD-ASD,VSD,PDA closure**

Presentation Type: **Oral**

# IS THE DEVICE SIZE SUITABLE FOR TRANSCATHETER ASD CLOSURE?

**Nazmi NARIN**[1], **Kaan YILDIZ**[2], Tulay DEMIRCAN[2], Rasit AKTAS[2], Sedat BAGLI[2], Sedef OKSUZ[2], Cem KARADENIZ[1]

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[2]*Tepecik Research and training Hospital, Izmir, Turkey*

Background: It was aimed to retrospectively evaluate the compatibility between the defect size and device size of secundum ASDs closed with different devices in patients who underwent transcatheter atrial septal defect closure in our clinic for two years. Methods: Forty-four patients (26 boys, 18 girls) with a mean age of 7.2 (7 months-17 years) who underwent transcatheter closure for secundum atrial septal defect were included in the study retrospectively. Demographic and angiographic data of these patients were collected retrospectively from patient records. The main indications for closure of ASD were: growth retardation, recurrent respiratory infections, bronchopulmonary dysplasia and genetic syndromes.

Results: In our study, the female:male ratio was 1:1.4, the mean weight during the procedure was 24.7 kg (6.6-77), respectively, and the mean follow-up time was 7.4 months (1-24). Qp/Qs 1.8 ±SD (1.5-2.7), mean defect diameter measured by transthoracic echocardiography (TTE) 13.1 mm (7 mm-30 mm), mean stretched diameter measured by balloon sizing 14.2 mm (7.6 mm-32 mm) The mean waist of the asd device measured from the fluoroscopy device after the procedure was determined as 13.7 mm (7-26 mm). Procedure and fluoroscopy times were found to be 15.4±12.5 minutes and 4.2±2.8 minutes, respectively. All procedures were performed under general anesthesia and under TTE guidance. The device types used were Amplatzer Septal Occluder, Lifetech CeraFlex Septal Occluder and Occlutech Figulla Flex II Atrial Septal Occluder. A statistically significant difference was found between the dimensions of the device closed with the Occlutech Figulla Flex 2 ASD occluder and the Amplatzer Septal Occluder ($P < 0.050$). There was no significant difference between other device types. All cases were closed successfully, but one patient was given to surgery because dislocation of the device developed the day after the procedure. Transient arrhythmia was observed in two patients and converted to sinus rhythm at follow-up.

Conclusion: Transcatheter ASD closure, even if the defect is very large in young children, it is possible to close the defect by selecting the appropriate device in skilled and professional hands. In our study, the waist length of the devices selected according to the defect size and sizing measurement was found to be smaller than the defect diameter. In the selection of the device, besides the balloon size, the measurement of the waist of the device will provide an idea for the use of the appropriate size device. Although there are minor differences between device types, operator experience stands out as the most important point in effective and safe closed. Since our study included a short period of two years, experience with larger case series is needed.

Keywords: ASD; child; congenital; transcatheter closure.

ID: **296**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# EARLY RESULTS OF SURGICAL TREATMENT OF DIAPHRAGM PARALYSIS AFTER PEDIATRIC HEART SURGERY

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Background:Diaphragm paralysis (DP) is defined as 'the presence of elevated hemi-diaphragm(s) on chest radiograph in conjunction with evidence of weak, immobile or paradoxical movement assessed by ultrasound or fluoroscopy' based on Society of Thoracic Surgeons (STS) Congenital Heart Surgery Database (CHSD) complication code specification. Although unilateral DP may be well-tolerated in older children and adults; young children and infants are more prone to untoward effects of a failed diaphragm, since the intercostal muscles are not effective with regard to increasing the dimensions of the thoracic cavity during inspiration. Herein, we aimed to present our experience in our patient population who underwent DPL after pediatric cardiac surgery, especially focusing on the implications of DP in patients with univentricular physiology.

Methods:Twenty patients (15 males, 5 females) were operated with the diagnosis of DP, three of whom had bilateral involvement. Mean age and body weight were 18.2 ± 15.17 months (range 1-48 months) and 8.35 ± 3.73 kg (range 3-17 kg), respectively. The period between the cardiac surgical procedure and the DPL was 18.77 ± 16.86 days (range 2-55 days).

Results:We encountered 20 patients with DP out of the 1938 cases performed during the abovementioned time period and the overall incidence of DP was 1.03% in our center (20 out of 1938). We encountered an unsuccessful attempt of weaning from mechanical ventilatory support and prolonged intubation in 11 of the cases (55%), whereas 8 of the patients (40%) were weaned form mechanical ventilation but had respiratory distress after extubation. Seven of our patients (35%) had re-sternotomy. The mean time period after the cardiac surgical procedure and DPL was 18.77 ± 16.86 days (range 2-55 days). We did not encounter any mortality in this patient population.

Conclusions:Several factors have been emphasized in order to clarify the etiology in patients with DP encountered after cardiac surgery. We recommend DPL before the final stage (i.e., Fontan completion) of univentricular palliation whenever a DP is encountered in order to perform this stage at optimum hemodynamic and respiratory conditions. Our early experience with diaphragmatic plication following DP are encouraging.

ID: **295**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Oral**

# COMPARATIVE NUMERICAL HEMODYNAMIC APPROACHES IN CONGENITAL CARDIOVASCULAR SURGERY

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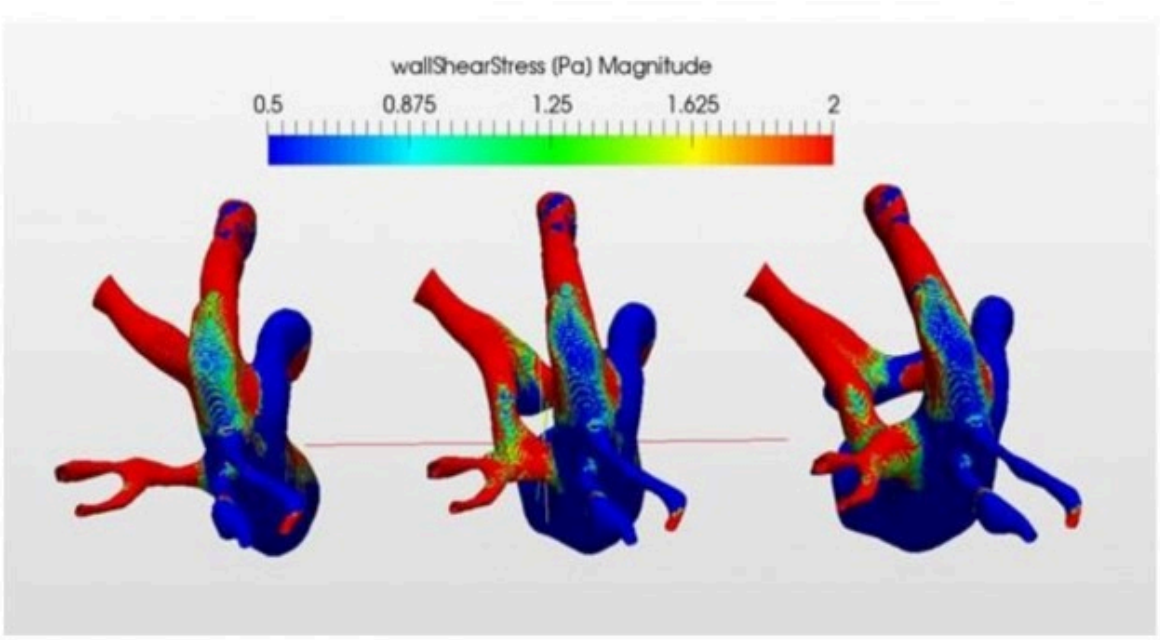
[2]*Istanbul Mehmet Akif Ersoy Thor. & Car. Surgery Research & Training Hospital , Istanbul, Turkey*

**Aim:** Planning a surgical approach that will provide hemodynamic stabilization in the management of cyanotic congenital heart disease is very significant due to the high mortality risk (1,2). The aim of this study is to obtain and to visualise mathematical data about the possible risks caused by blood flow in different surgical scenarios for cases with ventricular septal defect and ductus arteriosus.

**Methods:** Virtual artery and shunt geometries were created by obtaining patient-specific three-dimensional reconstructions based on computed tomography using image processing algorithms. Blood flow was simulated with the Navier-Stokes equations. Hemodynamic analyzes were compared by creating virtual surgery models for different scenarios (Figure 1).



**Results:** This hemodynamic methodology guided us to depict the critical regions which were different from the first model (only with shunt) and the second model (with shunt and pulmonary patch). Velocity contours were similar for both virtual post-operative artery models. However, the augmented patch on the shunt side was not sufficient to prevent left pulmonary artery remodeling risk (<4 Pa) with the new hydraulic ratio.

**Discussion:** Flow simulations provide indications that critical surgeries may see an additional reporting system that can be used to reduce multiple repair options and make patient-specific decisions. The significance of the findings should be validated with multiple data and patient follow-up.

**References:**

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[2] Beverly T. Tang at al., Wall shear stress is decreased in the pulmonary arteries of patients with pulmonary arterial hypertension: An image-based, computational fluid dynamics study, Pulm Circ. 2012 Oct-Dec; 2(4): 470–476.

ID: **155**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Oral**

# Successful Repair of Ventricular Septal Defect, Pulmonary Atresia and Double Aortic Arch

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OBJECTIVE

Double aortic arch is a congenital cardiac anomaly that occurs due to the persistence of both aortic arches in uterin life.Concomitant intracardiac anomalies are septal defects,TOF,TGA and heterotaxy/asplenia syndromes,dextrocardia,right ventricular-dominant AVSD,and DORV association. Here we present successful repair of a case with double aortic arch(DAA),VSD and PA association.

METHOD

12-day-old and 3 kg in weight term newborn was examined by echocardiography due to the cyanosis with oxygene saturation 80% in room air.In addition to PA and VSD,DAA was detected.The right aortic arch was greater and running through the right side of the vertebral column(Figure1A).The left aortic arch was smaller;all aortic branches and PDA were originated from the left arch(Figure1B).There was no sign of compression on trachea.Due to obligatory dependence of hypoplastic pulmonary circulation to the ductal patency,we decided to perform an initial aortopulmonary shunt operation.

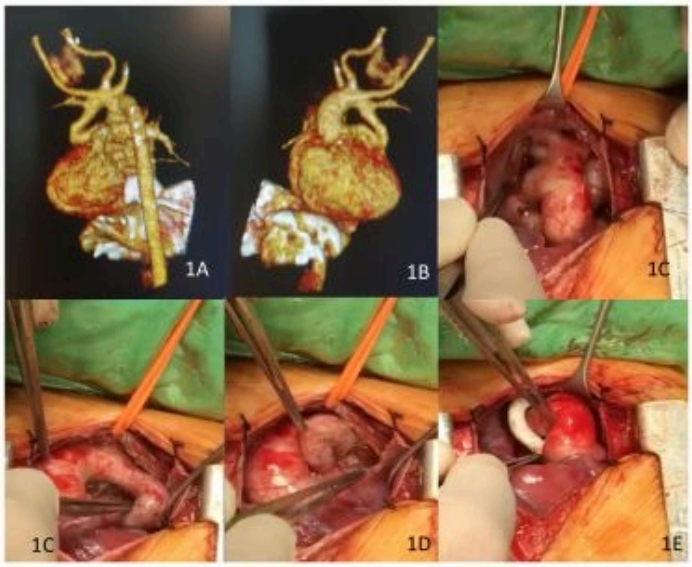
Median sternotomy was prefered to explore the anatomy entirely.To identify right and left subclavian arteries,we introduced right and left radial artery catheters previously and temporary occlusion test was made for each branch respectively.Ductal tissue originating from the end of left aortic arch was connecting to the pulmonary confluence.Right aortic arch was observed at the posterior site of left aortic arch creating a non-obstructive double aortic arch (Figure1C,1D).PDA was tortuous and dilated,that was severely narrowing at the connection of pulmonary confluence(Figure1E).After heparinization 4 mm PTFE graft was interposed between right pulmonary artery and proximal part of right subclavian artery with an 8/0 running polypropylene suture (Figure1F).After the adequate blood supply through the modified BT shunt, complete division of ductal tissue was performed.Narrowing on the left pulmonary artery was enlarged with a PTFE patch.Dissection around the descending aorta was made to provide an adequate mobility and to prevent a possible compression on esophagus caused by right aortic arch.

RESULT

Patient was extubated at the 2nd postoperative day and asetylsalicylic acide was began 6mg/kg once a day.Patient was discharged at the 7th day postoperatively without any complications.

CONCLUSION

Arrangement of the branches of double aortic arch should be evaluated preoperatively using computed tomography, in patients with associated complex cardiac disease.Presence or absence of this anomaly would not change the surgical procedure but it was important on deciding the appropriate subclavian artery for the shunt procedure with an appropriate angle.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**Oral Presentation Session**

**Perspectives in Complex Coronary Interventions**

**Date: 02.12.2022 Time: 11:15-12:15 Hall: 4**

ID: **96**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# IMPACT OF SYSTEMIC IMMUNE-INFLAMMATION INDEX ON ONE-YEAR MORTALITY AFTER LEFT MAIN PERCUTANEOUS CORONARY INTERVENTION

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**Objective**

Percutaneous coronary intervention (PCI) is increasingly being used as a treatment for the left main coronary artery (LMCA) interventions rather than coronary artery bypass graft (CABG) operation. It is known that inflammation plays an important role in the development of atherosclerosis. The systemic immune-inflammation index (SII) has been associated with cardiovascular diseases as a new marker. In our study, we examined whether there is a relationship between SII and LMCA PCI outcomes.

**Methods**

One hundred four consecutive patients who were evaluated for planned LMCA PCI were included in our study. Patients with acute or chronic infection, hematologic disorder, and severe liver failure were excluded. The study population was divided into two groups according to their one-year mortality and analyzed retrospectively.

SII: Calculated with the formula PxN/L; P, N, and L were the preoperative peripheral platelet, neutrophil, and lymphocyte counts, respectively.

**Results**

Baseline characteristics showed in the table (Table-1). SII was higher in the mortality (+) group (p=0,029). In the ROC analysis, AUC value for SII was 0.657. (Figure.1) An optimal cut off value of SII for predicting mortality in patients with LMCA PCI was ≥ 0,911,6 with a sensitivity of 72,6% and a specificity of 55% (Figure-1). Multivariate logistic regression analysis showed the impact of SII on the development of one-year mortality (odds ratio: 4.456, 95% confidence interval: 1,383-14,36, P=0,012).

**Conclusion**

Atherosclerosis is highly associated with an ongoing inflammatory response. Recently, SII was developed as a new index based on circulating immune-inflammatory cells, such as platelets, neutrophils, and lymphocytes. The index has been widely reported to be associated with poor outcomes in various diseases. In our study, the mortality (+) group had higher WBC, neutrophil, and SII values, which reflect more severe inflammation. And also, the results of this study identified the SII and eGFR as independent predictors of the one-year mortality following LMCA PCI.

**Table-1. Demographic and Clinical Variables of Study Population and Results of Regression Analysis**

| | Overall (n=104) | Mortality (-) (n=84) | Mortality (+) (n=20) | p-value |
|---|---|---|---|---|
| **Demograpic Variables and Cardiac Risk Factors** | | | | |
| Age, Years | 67,6±12,1 | 66,8±11,1 | 71,2±15,7 | 0,231 |
| Male, n (%) | 71 (%68,3) | 57 (%54,8) | 14 (%13,5) | 0,854 |
| Smoking | 71 (%68,3) | 58 (%55,8) | 13 (%12,5) | 0,728 |
| Hypertension, n (%) | 76 (%73,1) | 60 (%57,7) | 16 (%15,4) | 0,44 |
| Hyperlipidemia, n (%) | 26 (%25) | 23 (%22,1) | 3 (%2,9) | 0,728 |
| Diabetes Mellitus, n (%) | 41 (%39,4) | 32 (%30,8) | 9 (%8,7) | 0,572 |
| Previous MI, n (%) | 37 (%35,6) | 32 (%30,8) | 5 (%4,8) | 0,274 |
| Previous PCI, n (%) | 31 (%29,8) | 27 (%26) | 4 (%3,8) | 0,288 |
| Previous CABG, n (%) | 17 (%16,3) | 15 (%14,4) | 2 (%1,9) | 0,395 |
| **Clinical Presentaiton** | | | | |
| CCS, n (%) | 29 (%27,9) | 27 (%26) | 2 (%1,9) | **0,048** |
| ACS, n (%) | 75 (%72,1) | 57 (%54,8) | 18 (%17,3) | |
| **Angiographic Variables** | | | | |
| LMCA Size, mm | 4,2±0,5 | 4,2±0,5 | 3,9±0,5 | **0,024** |
| Bifurcation, n (%) | 26 (%25) | 16 (%15,4) | 10 (%9,6) | **0,004** |
| **Laboratory Variables** | | | | |
| Kreatinin, mg/dL | 1,1±0,6 | 1±0,5 | 1,4±1 | **0,027** |
| eGFR, mL/min/1.73 m2 | 78.7±31,8 | 81,8±31 | 65,6±31,6 | **0,02** |
| WBC, $10^3$/µl | 9,2±4,5 | 8,3±2,6 | 12,8±7,9 | **0,037** |
| Neutrophil, $10^3$/µl | 6,4±4,2 | 5,5±2,3 | 9,9±7,6 | **0,023** |
| SII | 1175,6±1846,3 | 803,5±480,5 | 2738,4±3780 | **0,029** |
| **Clinical Outcomes** | | | | |
| Target Vessel Revascularisation, n (%) | 5 (%4,8) | | | |
| One-Year Mortality, n (%) | 20 (%19,2) | | | |

**The effects of variables on one-year mortality in multivariate logistic regression analysis**

| | OR (%95 CI) | p-value |
|---|---|---|
| Age | 0,995 (0,946- 1,047) | 0,859 |
| Clinical_Presentation | 3,172 (0,625- 16,1) | 0,164 |
| LMCA_Size | 0,375 (0,135- 1,038) | 0,059 |
| eGFR | 0,976 (0,953- 1) | **0,046** |
| SII | 4,456 (1,383- 14,36) | **0,012** |
| Constant | 7,381 (0- 0) | 0,552 |

Cox & Snell R Square=0,166; Nagelkerke R Square=0,265; Accuracy=0,846

*MI: Myocardial Infarctus; PCI: Percutaneous Coronary Intervention; CABG: Coronary Arter Bypass Graft Operation; CCS: Chronic Coronary Syndrome; ACS:Acute Coronary Syndrome; SII: Systemic Immune-inflammation Index

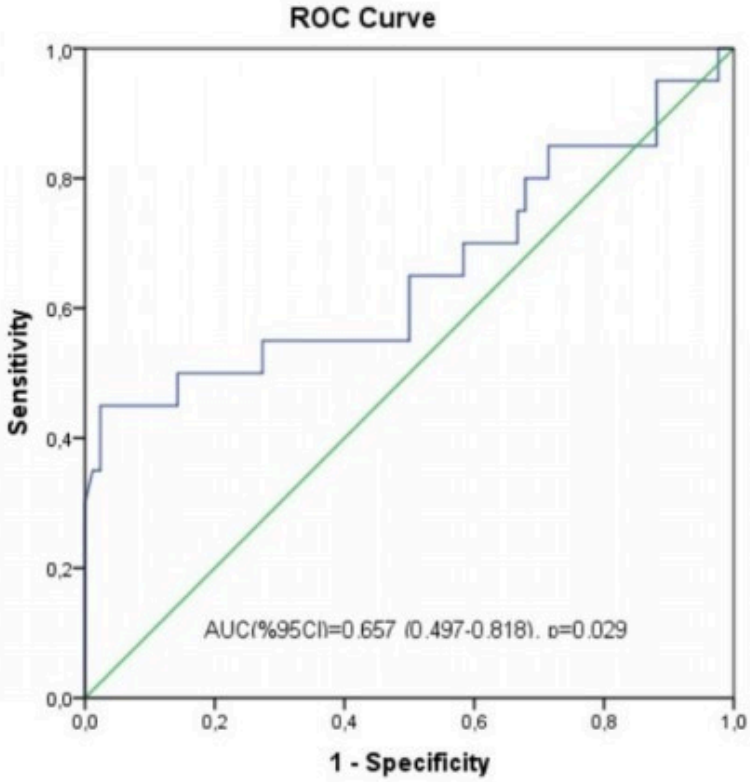


**Figure 1**: Receiver-operating characteristic curve indicating the discriminative ability of the SII. In the ROC analysis, AUC value for LCR was 0,657. The optimal SII cut-off value to predict one-year mortality is ≥ 911,6 with a sensitivity of 72,6% and a specificity of 55%.

ID: **22**

Topic: **Cardiology > Cardiorenal modulation**

Presentation Type: **Oral**

# RELATIONSHIP BETWEEN BASAL LIVER FUNCTION TEST LEVELS AND CONTRAST-INDUCED NEPHROPATHY IN PATIENTS UNDERGOING CORONARY ANGIOGRAPHY

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BACKGROUND:
The purpose of this study was to evaluate the relationship between initial levels of convantional liver function tests (ALT— Alanine aminotransferase; AST— Aspartate aminotransferase; GGT— gama glutamil transferase; ALP — alkaline phosphatase) and contrast induced nephropathy (CIN).

METHODS:
We conducted a retrospective study of 373 subjects with acute coronary syndrome who underwent coronary angiography (CAG). According to the development of contrast nephropathy, the patients were divided into two groups as those who did not develop contrast nephropathy (Group 1) and those who did (Group 2). Both groups were compared in terms of age, gender, diabetes mellitus, hypertension, baseline estimated glomerular filtration rate (eGFR), laboratory parameters and conventional liver enzymes (ALT, AST, GGT, ALP). The patients were given isotonic solution at a rate of 1 mL/kg/hour as a standard before and after the procedure. CIN is defined as a ≥ 0.5 mg/dL rise in serum creatinine or a 25% increase, assessed within 48-72 hours after administration of contrast medium (CM).
RESULTS:
373 patients who were diagnosed as acute coronary syndrome were included in our study. 227 (60%) of the patients were male and 146 (40%) were female. CIN was observed in 27% of patients. Advanced age, low initial creatinine, low albumin and low Hdl as well as high ALT, AST levels were correlated with the development of CIN. Positive correlation was detected between CIN and advanced age, ALT, AST levels in the correlation analysis and negative correlation was detected between eGFR, initial creatinine and albumin levels Advanced age and high ALT,AST levels were found to be predictors of CIN development in univariate regression analysis and advanced age and a high AST level was found to be predictors of CIN development in multivariate binary logistic regression analysis [OR 1.006, 95% CI 1.003–1.009, p<0.001] (Table 1). The best cut-off value of AST in predicting the development of CIN was determined by ROC analysis (Figure 1). Accordingly, the sensitivity of an AST level ≥43 in predicting the development of CIN was 77%, and the specificity was 71% (area under the curve [AUC]: 0.764, 95% confidence interval [CI]: 0.712-0.817, p<0.001).

CONCLUSIONS:
Our results suggest a possible relationship between the role of ALT and AST levels in the development of CIN. High ALT level and especially AST level may predict the development of CIN.

**Table 1.** Univariate and multivariate logistic regression analysis of CIN

| Variable | Univariate | | Multivariate | |
|---|---|---|---|---|
| | OR (95% CI) | p value | OR (95% CI) | p value |
| Age | 1.022 (1.003-1.043) | **0.026** | 1.022 (1.002-1.043) | **0.034** |
| AST (0-35 U/L) | 1.006 (1.003-1.009) | **<0.001** | 1.006 (1.003-1.009) | **<0.001** |
| ALT (0-34 U/L) | 1.015 (1.008-1.040) | **<0.001** | 1.004 (1.001-1.008) | 0.10 |
| DM, (%) | 1.282 (0.794-2.068) | 0.309 | | |
| Hypertension , (%) | 1.129 (0.707-1.804) | 0.610 | | |
| Albumin, (mg/dL) | 1.034 (0.933-1.146) | 0.519 | | |
| CRP, (mg/dL) | 1.015 (1.008-1.023) | 0.460 | | |
| WBC, (x1000/mm3) | 1.007 (0.976-1.040) | 0.651 | | |

ID: **20**

Topic: **Cardiology > Coronary artery disease - CABG surgery**

Presentation Type: **Oral**

# COMPARISON OF PERCUTANEOUS CORONARY INTERVENTION AND CORONARY ARTERY BYPASS GRAFT SURGERY IN LEFT MAIN DISEASE

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ABSTRACT

Objective: In the real world, the decision-making factors and long-term clinical outcomes of PCI and CABG in left main (LM) disease are still unclear. We aimed to analyze the factors to choose the treatment strategy and long-term clinical outcomes of patients treated with PCI or CABG for LM lesions.

Methods: We evaluated consecutive patients (n = 169) with LM disease either treated by PCI (n = 88) or CABG (n = 81). For the first year, the primary endpoint was major adverse cardiovascular events (MACE), which were defined as a composite of cardiac mortality, spontaneous myocardial infarction (MI), stroke, and target vessel revascularization (TVR).

Results: The average age was 64.17.5 years, 72 % were men, % had hypertension, and 34% had diabetes mellitus, with a mean LVEF of 58.2 0%. There was no difference in demographic data between the PCI and CABG groups. However, LVEF was significantly higher with PCI, while the EuroSCORE II was significantly higher in the CABG group. The CABG group's SYNTAX score was much higher than the PCI group's. In the PCI group, isolated LM lesions were more frequent. MACE occurred in 53 (23.0%) individuals, respectively. The incidence of MACE was similar between the two groups (PCI vs. CABG, HR 0.83, 95% CI [0.48–1.42], log-rank p = 0.49).

Conclusion: Clinical and angiographic factors were used to make treatment approach decisions. Despite the multivariate adjustment, the chosen patients who received PCI had similar MACE and a trend of a reduced risk of composite endpoints.

Keywords: Left main disease, percutaneous coronary intervention, coronary artery bypass surgery.

ID: **87**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# A PRACTICAL METHOD TO ADVANCE A STENT THROUGH CHALLENGING CORONARY LESIONS: ALYAN PATIENCE TECHNIQUE

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BACKGROUND: The passage of the stent through the lesion is the most crucial part of the percutaneous coronary intervention (PCI). PCI techniques for complex coronary anatomy lesions (narrow, angulated, long, tortuous, diffuse, bifurcation, or calcified) are associated with lower procedural success and higher major adverse events. Therefore, a relatively simple, reproductive, and inexpensive method is needed to overcome these challenging problems. Hereby, we describe a simple technique for advancing stents through complex lesions based on the impulse-momentum relationship (IMR) theorem (Impulse-momentum relationship formula: J=F.Δt = m.V = ΔP = ) (F, force; J, impulse; m, the mass of the object; Δv, the velocity of the object; ΔP, momentum; t1 and t2, times when the impulse begins and ends, respectively), and static friction force.
METHODS: We described results in a retrospective study of 24 patients undergoing complex lesion PCI procedures with stent advancement failures.
RESULTS: Study had 7 (29.2%) females (median 67.0 years), 17 (70.8%) males (median 63.0 years). Eight (29.2%) cases had RCA, and LAD, 6 (25.0%) LCx, 3 (12.5%) D1, 2 (8.3%) LMCA, 1 (4.2%) OM1, 1 (4.2%) OM2 and 1 (4.2%) saphenous vein graft lesion. Three (12.50%) cases had in-stent restenosis. Lesions' median length was 49 mm (quartiles 34.0-55.3). The most implanted stent diameter is 2.5 and 3.0 mm (12 of 39 stents, 30.8%), and the length is 38mm (6 of 39 stents, 15.4%). All procedures progressed after using of technique. Finally, all procedures resulted successfully without any complications.
CONCLUSIONS: The patience technique is a feasible, successful, and safe method for facilitating the passage of stents through complex lesions. This method can be used for complex coronary lesions before ascending to advanced PCI techniques.

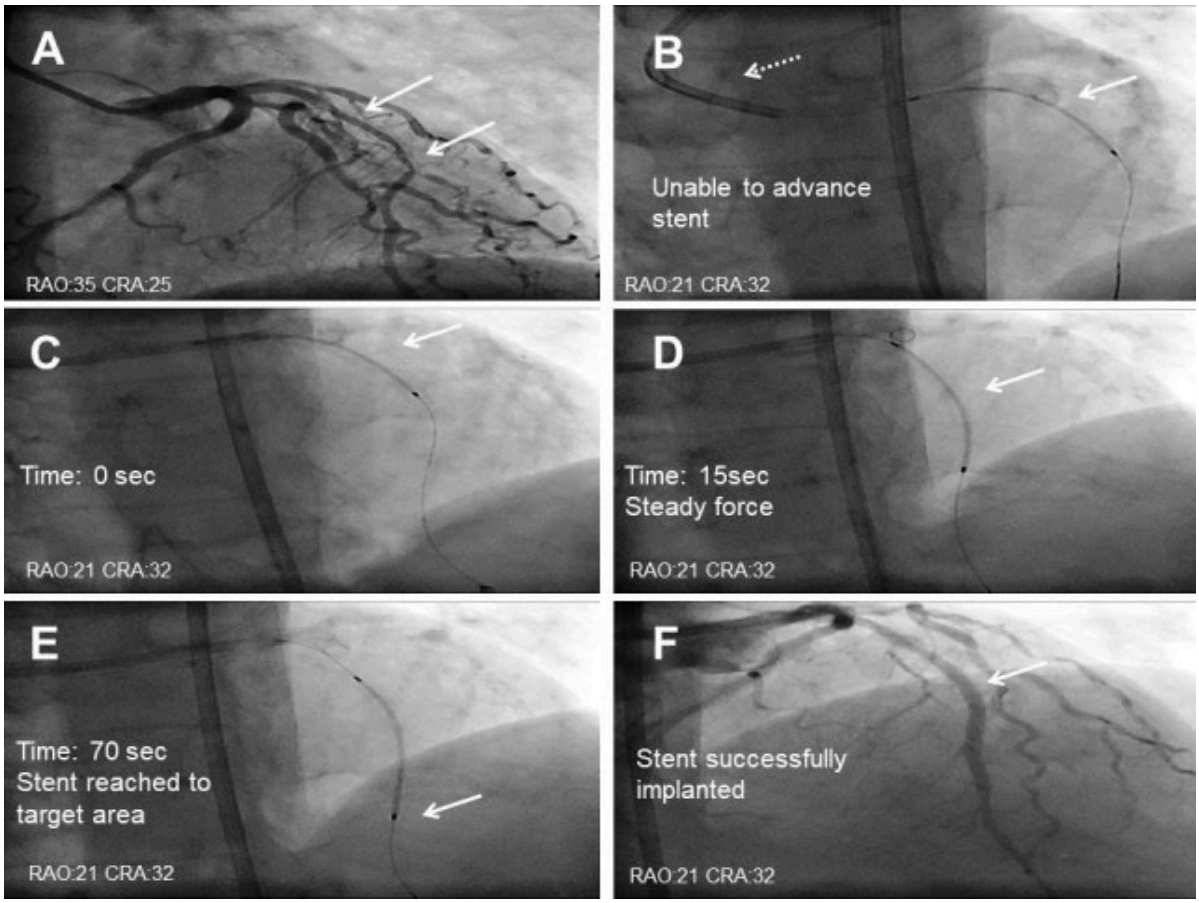


Figure 1. Interventional details. (A) Coronary angiography showed severe, long proximal stenosis and sub occlusive stenosis (arrow) in LAD (B) The guiding catheter showed a good coaxial engagement into the LMCA, but its backup support was inadequate (dashed arrow) for stent advancement (arrow). (C-E) Right cranial projections showed the advancement of the stent from the beginning to the end of the process. Xience 2.5 × 38 mm stent implanted.

Table 1. Patients' clinical and angiographic characteristics.

Case Age/Gender Presentation Lesion location and stent

1. 62/M SAP LAD:2,25*37 2,5*16
2. 55/F USAP LAD:2,5*38
3. 65/M USAP RCA:3,0*38
4. 71/M USAP LMCA-Cx:3,0*28
5. 60/M SAP D1:2,75*33 Cx:2,75*15
6. 67/F NONSTMI AO-OM2:3,0*15
7. 50/F SAP RCA:2,25*18 2,25*28 2,5*18 2,5*38 2,75*15
8. 59/M SAP LAD:3,0*29 D1:2,5*48
9. 84/F NONSTMI RCA:3,0*38
10. 72/M USAP Cx:2,5*28 2,5*28
11. 61/M SAP RCA:2,5*37
12. 67/F NONSTMI LAD:2.75*48
13. 62/M NONSTMI RCA:3,0*40
14. 82/F USAP CX:2,75*18 RCA:2,75*32 4,0*18
15. 63/M SAP RPD:2,5*31 RCA:3,0*48 3.5*9
16. 76/M NONSTMI LAD:2,75*18
17. 64/M USAP LAD:3,0*32
18. 50/M STEMI Cx:3,0*38

19. 55/M NONSTMI Cx:2,5*40
20. 64/M NONSTMI LAD:2,75*38
21. 63/M USAP CXOM2:2,5*33
22. 70/M NONSTMI LAD:2,75*16
23. 56/F USAP Cx:2,5*24 LMCA:3,0*28
24. 58/M SAP Cx:3,0*48 RCA:3.0*48

D, Diagonal branch; LAD, left anterior descending branch artery; LCx, left circumflex coronary artery; ISR, in-stent restenosis; LCxOM, left circumflex coronary artery obtuse marginal branch; LMCA, left main coronary artery; NSTEMI, Non-ST-elevation myocardial infarction; PDA, posterior descending artery; RCA, Right coronary artery; SAP, stable angina pectoris; SAT, stent advancement time; USAP; unstable angina pectoris; SVG, saphenous vein graft; STEMI, ST-segment elevation myocardial infarction.

ID: **94**

Topic: **Cardiology > Acute coronary syndromes**

Presentation Type: **Oral**

# WRAP AROUND LEFT ANTERIOR DESCENDING ARTERY OCCLUSION PRESENTING AS TAKOTSUBO SYNDROME IN A PATIENT WITH END-STAGE RENAL DISEASE

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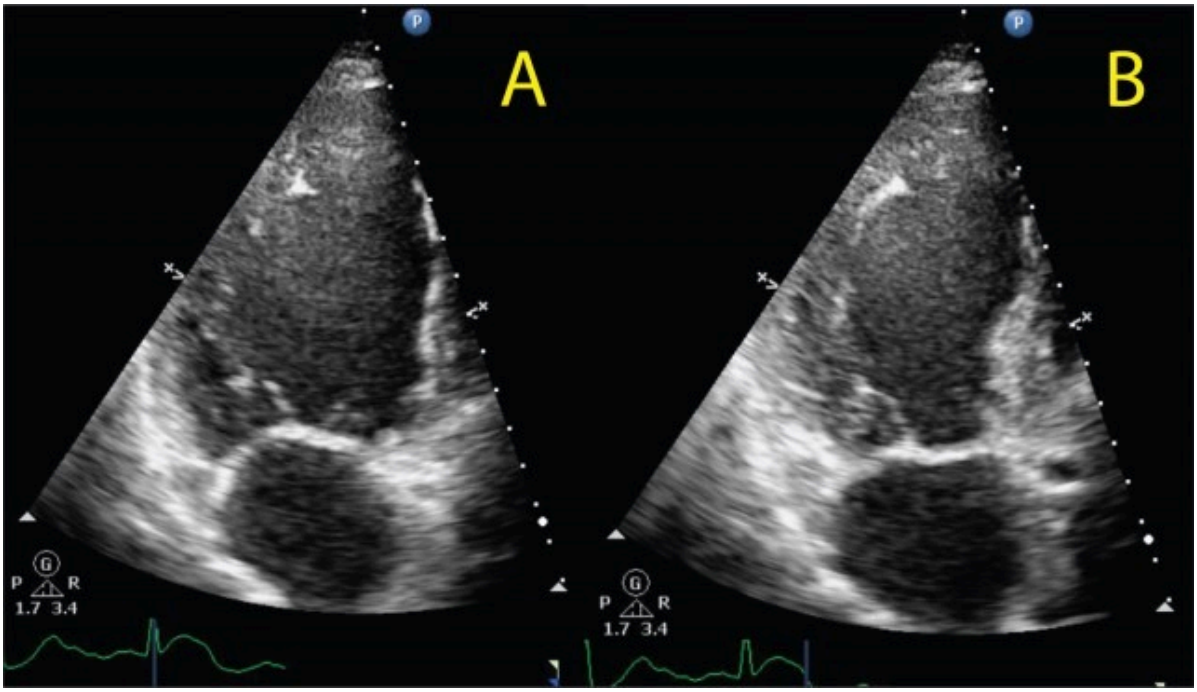


Introduction

Takotsubo syndrome (TS), also known as stress cardiomyopathy, is defined as reversible left ventricular (LV) dysfunction in the absence of significant coronary artery disease after emotional or physical stress. This syndrome, which is observed in 1.7-2.2% of patients presenting with the clinic of the acute coronary syndrome, is similar to the octopus traps called Tako-tsubo used by Japanese fishermen in LV systole. This image is caused by a segmental wall motion defect that surrounds the mid and apical sections of the LV. We would like to present a case who presented with TS with clinical presentation and laboratory features, and then

percutaneous coronary intervention was performed after a wrap-around left anterior descending artery (LAD) lesion was detected.

Case Report

A 78-year-old postmenopausal female patient with the end-stage renal disease was admitted to our emergency department with shortness of breath that lasted for half an hour and developed after intense emotional stress (family quarrel) 24 hours ago. The patient was asymptomatic at admission, blood pressure was 100/60mmHg, heart rate was 60/min, and arterial oxygen saturation was 95%. There were anterior precordial T negativities in the ECG. There was no ST elevation. High sensitive Troponin-I values were determined as 6.5ng/dL (normal<0.0156). Transthoracic echocardiography showed a typical Takotsubo appearance with moderate mitral valve regurgitation and an ejection fraction (EF) of 37%.

When the clinical, laboratory, and imaging features of the patient were found together (Picture), medical treatment was started primarily for Takotsubo cardiomyopathy, considering that he was asymptomatic at admission. Carvedilol 6.25mg, enalapril 2.5mg 2x1 were started after consulting nephrology. Coronary angiography was planned to exclude coronary artery disease. Coronary angiography revealed a wrap-around LAD from the heart apex to the inferoposterior. After balloon predilatation to the subtotal lesion detected in the proximal LAD, 3.5x30mm proximal stents and 3x32mm zotarolimus-coated stents were telescopically implanted in the mid-region. After the procedure, a temporary hemodialysis catheter was inserted through the right subclavian vein and he was taken to hemodialysis. In the follow-up, the patient did not have chest pain and his ECG findings regressed. His EF increased up to 50% in TTE, and the characteristic segmental wall motion disorder disappeared. After the procedure, he did not need hemodialysis again. He was discharged with clopidogrel 75mg, acetylsalicylic acid 81 mg, carvedilol 25mg 2x1, enalapril 5mg 2x1 and rosuvastatin 40mg.

ID: **76**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# CORONARY BOUGIE - A NEW DEVICE IN ENDOVASCULAR SURGERY?

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Aim. To assess the effect of coronary artery bougienage on the incidence of no/slow-reflow complication during percutaneous coronary intervention (PCI) in patients diagnosed ST-elevation myocardial infarction (STEMI).

Methods. We analyzed the experience of the department of endovascular diagnostic and treatment methods of the Stavropol Regional Clinical Hospital for endovascular surgical treatment of patients with STEMI, including after thrombolytic therapy (TLT). The study included 721 patients admitted to the hospital within the first 12 hours from the moment of the first contact with a medical staff. For the study, patients were divided into 2 comparable groups according to the number of patients by their gender, age, and other characteristics. The basic difference between the groups was the blood flow for infarct-related artery (IRA) according to the gradation scale TIMI (Thrombolysis in myocardial infarction). Each of the groups had 2 subgroups that were also comparable among themselves by the number of patients by their gender, age, and other characteristics. This groups were divided by performing of coronary artery bougienage.

Results. The lowest frequency of no/slow-reflow phenomenon was in the groups in which bougienage was performed before stent implantation.

Conclusion. The most preferred in PCI is perform bougienage if there is an appropriate technical feasibility. In patients with a blood flow level TIMI 0 is recommended to make bougienage. After this manipulation antegrade blood flow may be achieved.

ID: **330**

Topic: **Cardiology > Coronary artery disease - CABG surgery**

Presentation Type: **Oral**

# COMPARISON OF LIMA FRAME COUNT BETWEEN THE CORONARY BYPASS PATIENTS WITH AND WITHOUT LIMA SIDE-BRANCH

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Introduction

There are many case reports claiming that not closure of the branches of the left internal mammary artery (LIMA) during coronary bypass operation (CABG) may result in ischemia and angina with the stealing phenomenon of blood flow to the left anterior descending artery (LAD). In this study, we investigated the incidence of LIMA side branches in our coronary angiography (CAG) series. LIMA anatomy and its flow rate were evaluated using the thrombolysis in myocardial infarction (TIMI) frame count to assess LAD perfusion.

Method

Patients who underwent CABG operation previously and imaging due to chest pain between March 2019 and July 2022 were included in the study. All patients had chest pains and myocardial ischemia findings demonstrated by electrocardiography (ECG), myocardial perfusion scintigraphy or Treadmil exercise test. All CAG performed in our cardiology clinic were reviewed retrospectively, and patients with a connection between the LIMA and the LAD (LIMA-LAD graft) were included in the study. Patients whose LIMA was not used for the CABG, who developed stenosis in the LIMA or lost their flow completely, connected the LAD with the saphenous vein, patients with cardiogenic shock with extremely low blood flow rate in the aorta due to hypotension, patients with insufficient image quality, Patients with recurrent angiography were also excluded. The files of all patients who met the inclusion criteria were obtained from the hospital archive and recorded together with the data in the e-Nabız system in the hospital information management system and included in the statistical analysis.

CAG of the patients were made by femoral route, while the images were adjusted to be 15 frames per second (frame per second, fps), 6-10 mL iopromide opaque in each exposure, and all measurements were made by examining them in the Extreme Pacs program. LIMA imaging was performed using a diagnostic 6F right judkins catheter, and its diameters were calculated by calibrating with the ruler method based on this catheter. In the LIMA diameter calculation, the proximal mid and distal diameters of the LIMA were measured and the mean value was calculated. In addition, the origin of the LIMA from the subclavian artery, the course of the LIMA, and whether it has side-branches were noted. Those without more than 2 folds were considered as straight, and those with more than 2 folds were considered as curved LIMA. To calculate the LIMA blood flow velocity, the number of cine frames starting from the first opaque entrance to the LIMA and elapsed until reaching the LAD

anastomosis area was measured and calculated. TIMI frame count and LIMA blood flow were calculated for each patient. The fame count was compared between those with LIMA side-branch and those without side-branches.

Continuous variable data of the patients were expressed as mean±standard deviation, and categorical variables as n(%). The normal distribution of the data was checked using the Kolmogorov–Smirnov and ShapiroWilk test. T test was used in comparison of numerical variables since they showed normal distribution. Categorical variables were compared with the χ2 test. Pearson correlation test was used for correlation analysis. A p value less than 0.05 was accepted as statistically significant.

Results

CAG images of a total of 194 patients were analyzed within the specified period. After excluding 13 patients with deflated LIMA, 46 patients with unbound LIMA, 15 patients without LIMA, 1 patient who died during CAG, and 1 patient with occluded subclavian artery, 118 patients were included in the study. The LIMA side branches of 63 patients were completely ligated, and at least one side branch of 55 patients was not ligated. When the demographic data were examined, the rate of smoking was significantly higher in the group with LIMA side-branch (p:0.005). There was no significant difference between the groups in terms of other demographic data. Frame count was found to be higher in the group with LIMA side-branch (p<0.001) (Table-1). Pearson correlation analysis showed a negative significant correlation between LIMA diameter and LIMA frame count (r=-428, p<0.001) in group without LIMA side-branch.

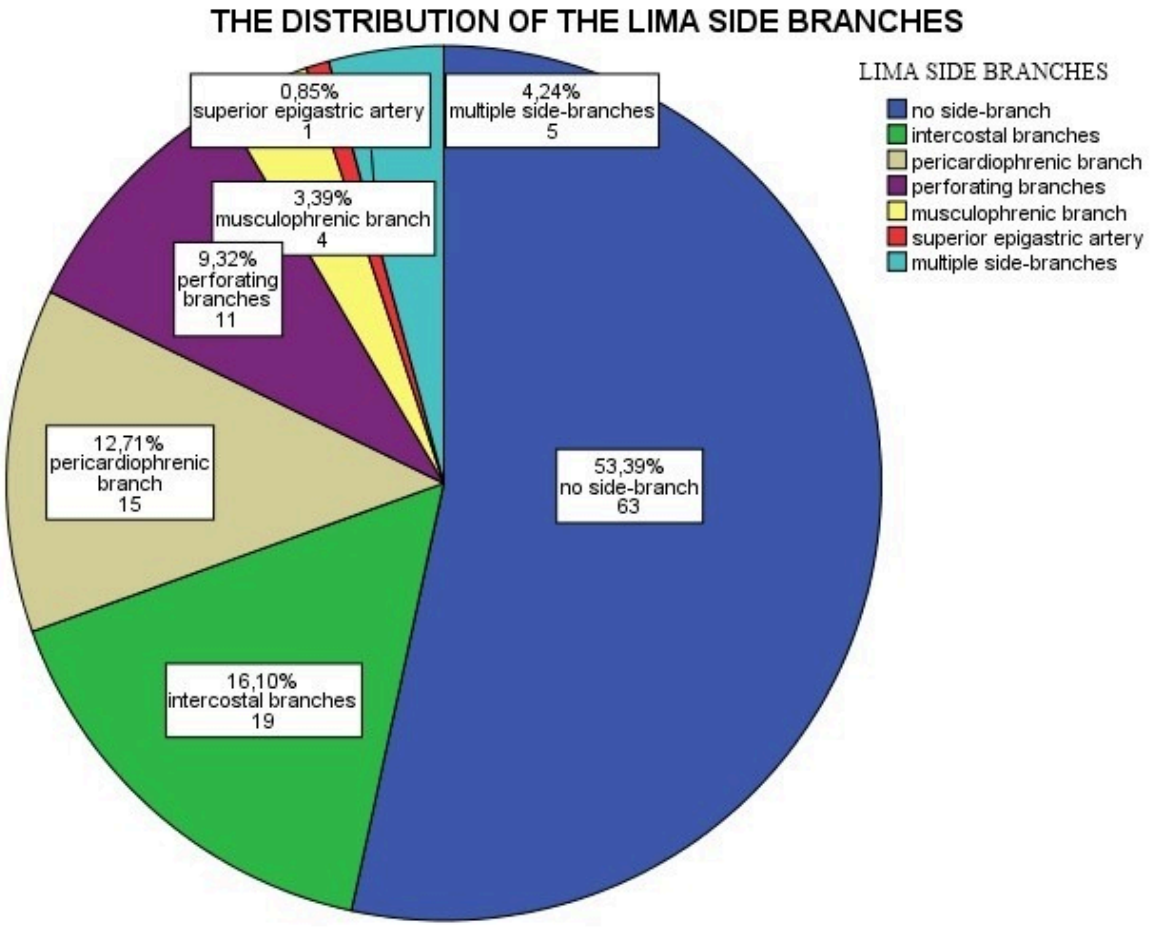


**Table-1. Demographic and clinical data of the patients with and without LIMA side-branch**

| **Variables** | **LIMA with side-branch (n:55)** | **LIMA without side-branch (n:63)** | **P** |
|---|---|---|---|
| Age (year) | 62.3±1.4 | 65.3±1.5 | 0.114 |

| | | | |
|---|---|---|---|
| Gender (male) | 47(85.5) | 45(71.4) | 0.780 |
| Pulse (beats per min) | 73.1±9.1 | 73.2±9.6 | 0.925 |
| Systolic Blood Pressure (mmHg) | 125.2±7.3 | 124.8±8.1 | 0.793 |
| Diastolic Blood Pressure (mmHg) | 73.9±8.6 | 73.1±9.1 | 0.622 |
| DM n(%) | 10 (18.2) | 15 (23.8) | 0.504 |
| HT n(%) | 25 (45.5) | 31 (49.2) | 0.715 |
| HPL n(%) | 31 (56.4) | 36 (57.1) | 0.540 |
| Smoking n(%) | 21 (38.2) | 9 (14.3) | 0.005 |
| Family History n(%) | 9 (16.4) | 4 (6.3) | 0.139 |
| CKD n(%) | 3 (5.5) | 6 (9.5) | 0.502 |
| Angina Pectoris n(%) | 55 (100) | 61 (96.8) | 0.498 |
| Heart Failure n(%) | 5 (9.1) | 11 (17.5) | 0.281 |
| The reason of the CAG n(%)<br>-ECG changes<br>-MPS<br>-Treadmil test | 44 (80.0)<br>5 (9.1)<br>6 (10.9) | 59 (93.7)<br>1 (1.6)<br>3 (4.8) | 0.069 |
| LVEF (%) | 54.8±7.9 | 53.1±10.1 | 0.306 |
| LIMA TIMI flow n(%)<br>TIMI 0-1<br>TIMI 2<br>TIMI 3 | 0 (0.0)<br>4 (7.3)<br>51 (92.7) | 1 (1.6)<br>0 (0.0)<br>62 (98.4) | 0.062 |
| LIMA diameter (cm) | 2.8±0.55 | 2.93±0.51 | 0.182 |
| LİMA diameter group n(%)<br><2.0<br>2.0-2.5<br>2.6-3.0<br>>3.1 | 3 (5.5)<br>13 (23.6)<br>23 (41.8)<br>16 (29.1) | 1 (1.6)<br>13 (20.6)<br>22 (34.9)<br>27 (42.9) | 0.346 |
| LİMA origin n(%)<br>Before vertebral artery<br>After vertebral artery<br>Middle of the subclavien artery | 5 (9.1)<br>47 (85.5)<br>3 (5.5) | 9 (14.3)<br>54 (85.7)<br>0 (0.0) | 0.118 |
| LIMA course n(%)<br>Straight<br>Kinky<br>Stenosis | 33 (60.0)<br>22 (40.0)<br>0 (0.0) | 37 (58.7)<br>26 (41.3)<br>0 (0.0) | 0.519 |
| LIMA frame count (n) | 18.7±4.3 | 14.5±3.2 | <0.001 |

Discussion

The study found that TIMI frame count in patients with LIMA grafts was significantly higher when LIMA side branches were present. This finding may indicate insufficient LIMA flow. Side branches, which cause an increase in the TIMI frame count in patients with LIMA grafts, may result in myocardial ischaemia. The TIMI frame count may be a useful way to identify insufficient coronary flow in patients with LIMA side branches.

ID: **348**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# TRIPLE INJECTIONS IN PLANNING OF CTO PCI IN POST CABG PATIENTS

**Haşim TÜNER**

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Triple Injections in Planning of CTO PCI in Post CABG Patients

Abstract
Post CABG–CTO PCI is complicated and challenging but it is important and necessary. Most of the time we need triple injections rather than dual injections for success.
Introduction

Management of chronic total occlusions (CTO) remains extremely challenging and without strong evidence of long-term outcomes benefits. One third of the coronary artery disease patients have a CTO which technically challenging to open the vessel. However, there is a dramatic increasing success rates in CTO-PCI with the development of new techniques and special devices (1).
Post CABG CTO-PCI has more challenging difficulties than CTO - PCI in native coronary artery patients in regards of anatomy, increased contrast agent usage and radiation usage (2). There is no standard technique in post CABG CTO cases to understand the anatomy and the collaterals. Dual injection may not be enough to define the anatomy of the CTO body, vessel course and the collaterals flow. Triple injection may be better to define anatomy than dual injection especially in post CABG patients.

Case 1
Here, we present a 56-year-old male patient with previous history of diabetes mellitus and smoking. He had LIMA to LAD in 2009 and left iliac artery stent in 2019.

In 2021 he has undergone CAG and RCA was found to be CTO filling from Septals from distal part of LAD CTO segment, LIMA was patent, LAD mid was also CTO and CX ostium was critically diseased and distal was CTO. CX proximal was stented and the patient's medical treatment was optimized.

Despite OMT the patient has exertional angina. His echocardiography showed reduce LV systolic function to 35% with mild mitral valve regurgitation. The single photon emission tomography (SPECT) showed reversable ischemia at inferior and posterior wall. RCA CTO PCI planned.
Triple access was planned with left radial 6F sheath and IMA to stain LIMA, right radial 7F slender sheath and 7F AL1 to RCA, and right femoral 7F sheath and 3.5 EBU to LMCA.

We gave a chance to antegrade route despite having ambiguous cap and side branch at the CTO entrance. Gaia 2nd and 3rd was tried as a parallel wire technique but failed to find distal vessel. Since the distal was also diseased wire based dissection and reentry was left for the last resort after retrograde trial.
Since the patient has the single vessel working retrograde from Lima was not an option. To have the retrograde option the Septals before

LAD CTO segment were stained and septal surfing was done. However, there were no connection to RCA PDA from these Septals.

Decision to cross LAD CTO segment and go from the Septals after that segment was done. We tried to cross LAD short CTO segment with Gaia 2nd however failed to cross. Than we ancored CX stent and went for Conquest Pro 12 to cross the lesion. The lesion was crossed with CP pro 12 and the Septal was crossed with Sion Black. Distal cap was penetrated and crossed with Gaia 3rd and externalization was done with RG3. After dilatation with 2.5x20 mmNC balloon, a DES of 3.5x48 mm was implanted and postilated with 4.0x15 mm NC. The intervention was successfully finished with help of good planning and triple injection.

Case 2

The second case is also a post CABG patient. He had Lima to LAD, Radial to Diagonal and SVG to RCA and OM in 2008. He has exertional angina and the examination showed normal ejection fraction with positive exercise stress test. The CAG showed LAD proximal occlusion and patent Lima and Radial grafts to LAD and Diagonal. CX proximal was occluded and SVG to OM graft was occluded. CX and OM distal was filled from LAD and Diagonal. RCA mid was occluded and SVG to RCA was occluded. CX and RCA CTO PCI was planned. To better visualize CX distal triple access and injection was planned. 7 F slender sheath was inserted to right radial and LMCA was cannulated with EBU 3.5 7F catheter. 6 F sheath was inserted to the left femoral and LIMA was cannulated with 6F IMA guiding catheter. 6 F sheath was inserted to the right femoral and Radial to diagonal graft was cannulated with JR4 6f guiding catheter.

After tiple injection and defined anatomy AWE was planned as the first strategy. Trials with Pilot 50 to track microchannels was failed. Escalation to Gaia 2nd and to Gaia 3rd finally we were able to cross the lesion. After dilatation with 2.0x20 mm balloon and 3.0x20 mm NC; a 3.5x34 DES was implanted and postdilated with 4.0x12 mm NC. The intervention was successfully finished with help of good planning and triple injection.

Discussions

Dual injections are fundamental and crucial in CTO -PCI. To better evaluate of the proximal and distal caps, distal vessel after the CTO segment and also to understand the collateral dual injection is a must.

It provides critical information regarding the lesion length, size, and location of distal target vessel. Dual injection is the key for retrograde approach feasibility. It plays a crucial role in clarifying the position of the guide wire and other equipment's.

Especially in some of the post CABG CTO PCI cases it is crucial to do triple injection rather than dual injection since there are grafts to give different collaterals to CTO vessel. As our cases the CTO vessels have different collaterals from both natives and grafts which makes triple injection crucial to understand the anatomy (3). It is important to secure triple access before you start procedure and given heparin because at any moment you may need triple access.

Conclusion

In post CABG CTO PCI since there is more than right and left coronary system; the dual injection may not provide adequate visualization of the anatomy. In that situation triple injection using also the graft is the best solution for better visualization and understanding the anatomy and collateral.

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fortiermsc Philippe L.l'alliermd Hung Q.lymd, SM

The American Journal of Cardiology Volume 118, Issue 8, 15 October 2016, Pages 1128-1135

2.Rustem Dautov, Can Manh Nguyen, Omar Altisent, Claire Gibrat and Stéphane Rinfret

Recanalization of Chronic Total Occlusions in Patients With Previous Coronary Bypass Surgery and Consideration of Retrograde Access via Saphenous Vein Grafts

Originally published14 2016 https://doi.org/10.1161/CIRCINTERVENTIONS.115.003515 Circulation: Cardiovascular Interventions. 2016;9:e003515

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ID: **42**

Topic: **Cardiovascular Surgery > Risk management in cardiovascular diseases**

Presentation Type: **Oral**

# DIAPHRAGMATIC ELEVATION AFTER CARDIAC SURGERY

**Isa CIVELEK**[1], Hamdi Mehmet ÖZBEK[2], Ayla Ece ÇELIKTEN[3], Anıl ÖZEN[3], Ertekin Utku ÜNAL[4], Cemal Levent BIRINCIOĞLU[3]

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**Objective:** Diaphragmatic elevation is an underestimated post-cardiac surgery complication. This study aims to determine diaphragmatic elevation's incidence, prognosis, and causes after cardiac surgery.

**Methods:** This study was carried out with 915 consecutive patients whose data were retrospectively collected from the medical records. Patients' preoperative and postoperative chest X-rays were examined. The patients who had a diaphragmatic elevation compared to those who didn't in terms of perioperative and postoperative characteristics.

**Results:** The incidence of diaphragmatic elevation is found to be %11,14. In the follow-ups, it is observed that 85% of patients with diaphragmatic elevation had recovered within 12 months. In terms of mechanical ventilation time, ICU stay, hospitalization period, and hospital mortality there was no difference between the patients who had a diaphragmatic elevation and the patients who did not. Patients with COPD and diaphragmatic elevation were found to have a longer mechanical ventilation time compared to patients who had COPD but didn't have diaphragmatic elevation. The incidence of diaphragmatic elevation is higher among patients who had a CABG procedure than those without a CABG procedure ($p<0.001$). Additionally, as a secondary analysis, propensity score matching analysis is applied and topical cold slush is found to be an independent risk factor for diaphragmatic elevation. Among the patients who had a topical cold slush, the incidence of diaphragmatic elevation was higher and the hospitalization period was longer ($p=0.011$ and $p=0.002$, respectively). LIMA harvesting and DM were associated with an increased incidence of diaphragmatic elevation ($p<0.001$ and $p=0.014$, respectively).

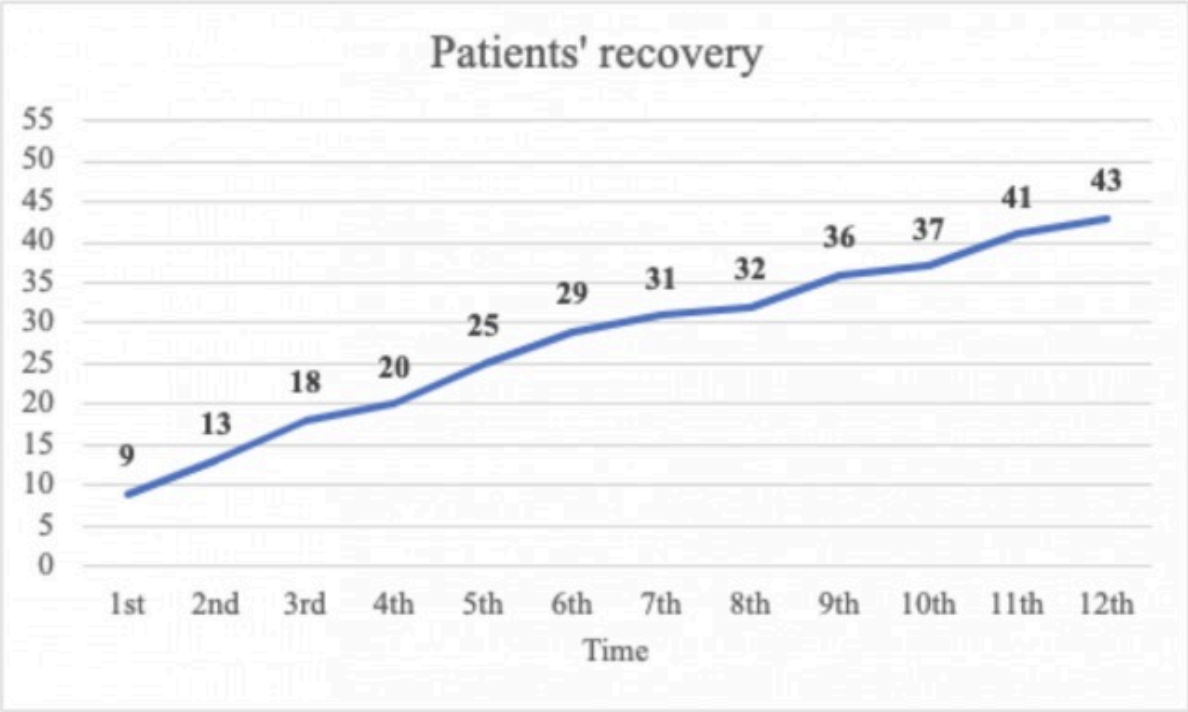


Table: Propensity score matching

| | Slush group (n=37) | Non-slush group (n=37) | p value |
|---|---|---|---|
| Sex (female) | 9 (24.3%) | 9 (24.3%) | 1.000 |
| Age | 62.03 ± 12.58 | 61.73 ± 12.26 | 0.691 |
| DM | 13 (%35.1) | 15 (%40.5) | 0.632 |
| HT | 18 (%48.6) | 20 (%54.1) | 0.642 |
| COPD | 5 (%13.5) | 1 (%2.7) | 0.199 |
| Mean EF | 55.24 ± 7.14 | 50.51 ± 11.49 | 0.138 |
| CABG cases | 31 (83.8%) | 30 (81.1%) | 0.691 |
| LIMA | 30 (%81.1) | 30 (%81.1) | 1.000 |
| CPB time (min) | 108.30 ± 39.61 | 86.57 ± 37.13 | 0.143 |
| Body temperature (°C) | 30.76 ± 1.23 | 35.43 ± 1.77 | <0.001 |
| MV time (hours) | 13.78 ± 19.77 | 9.95 ± 7.09 | 0.614 |
| ICU stay (days) | 2.57 ± 4.05 | 1.41 ± 1.12 | 0.128 |
| Hospital stay (day) | 9.25 ± 5.17 | 6.08 ± 2.28 | **0.002** |
| Hospital mortality | 1 (%2.7) | 0 (%0.0) | 1.000 |
| Diaphragmatic elevation | 7 (%18.9) | 0 (%0.0) | **0.011** |

*DM: Diabetes Mellitus, HT: Hypertension, COPD: Chronic Obstructive Pulmonary Disease, LIMA: Left internal mammarian artery, CPB: Cardiopulmonary Bypass, MV: Mechanical Ventilation, ICU: Intensive care unit*

**Conclusions:** Diaphragmatic elevation has a high incidence among cardiac surgical patients. In particular, the CABG procedure among diabetic patients is likely to increase the risk of diaphragmatic elevation. Among COPD patients, diaphragmatic elevation may cause worse clinical outcomes. Considering that the risk of developing diaphragmatic elevation is the lowest among the patients who had beating heart surgery, these findings also suggest that limiting the use of topical cold slush or applying the beating heart technique may be considered in the groups of patients who have a high risk of developing diaphragmatic elevation.

**Key Words:** Diaphragmatic Elevation, Cardiac Surgical Procedures, LIMA Harvesting, Topical Cold Slush

**Oral Presentation Session**

**Coronary Surgery: Back To The Future**

**Date: 02.12.2022 Time: 11:15-12:15 Hall: 5**

ID: **119**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# THE RESEARCH OF PREOPERATIVE AND POSTOPERATIVE PRESEPSIN LEVELS ON THE EFFECT OF REMOTE ISCHEMIC PRECONDITIONING BEFORE CARDIOPULMONARY BYPASS ON THE SYSTEMIC INFLAMMATORY RESPONSE

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OBJECTIVE: In our study, we investigated the effect of Remote Ischemic Preconditioning (RIPC) on the inflammatory response due to CPB by sampling at preoperative and postoperative 1st hour and postoperative 24th hour serum presepsin levels in the study and control groups.
METHODS: Eighty-one patients scheduled for CABG surgery with CPB were included in the study. Patients were randomized and RIPC was applied to 40 patients before anesthesia. The remaining 41 patients were determined as the control group, and their data were obtained retrospectively. The causal relationships between RIPC and factors such as presepsin, CRP, leukocyte levels, cross-clamp duration, cardiopulmonary bypass duration, intensive care and hospital stay, and demographic characteristics of the patients were investigated.

RESULTS: There was no significant difference between the groups in postoperative leukocyte and CRP values (p=0.52, p=0.13, respectively). When the preoperative and postoperative 1st hour presepsin values of the patients were compared, no significant difference was found in the control group (p=0.17), but a significant difference was found in the study group (p<0.05). When the presepsin values were compared between the groups, a significant difference was found only in the postoperative 1st hour value (p<0.05). There was no significant difference between the two groups according to the operative parameters (X-Clamp p=0.11, CPB p=0.19).

CONCLUSIONS: It was observed that RIPC application increased the presepsin levels in the postoperative 1st hour significantly compared to the control group. (p<0.05)

ID: **130**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# MORTALITY BENEFITS OF CORONARY ARTERY BYPASS GRAFTING SURGERY IN PATIENTS WITH POOR LEFT VENTRICULAR FUNCTION–A SINGLE CENTER PAKISTANI RETROSPECTIVE STUDY.

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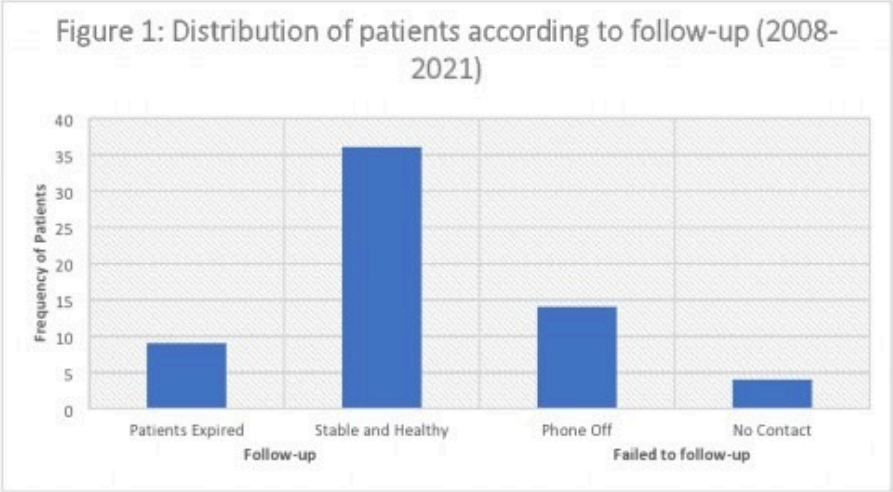
BACKGROUND: Congestive heart failure is a concerning cardiovascular disease with high morbidity and mortality and extensive healthcare costs. Surgical revascularization (CABG) has improved cardiac function and survival rates in several retrospective studies, but with new heart failure guidelines and medications (sacubitril/valsartan, SGLT2 inhibitors), surgical revascularization and medical management have shown similar outcomes- conflicting with the previous data. The STICH trial randomized patients with coronary artery disease and LV dysfunction to goal-directed medical therapy versus CABG plus medical treatment. There was no significant difference between regimens when followed over 56 months. We conducted a similar retrospective study, STITCHES (an extension of STITCH), to determine early and late mortality outcomes of CABG in patients

with poor left ventricular function (EF 30% or less) in the Asian Pakistani population. It showed improved mortality and morbidity in patients who underwent surgical revascularization and medical therapy at ten years compared to medical therapy alone.

Methods: We included 93 patients with poor LV function (EF<30%) who underwent surgical revascularization from 2008 to 2021 at our center. All cases were started as off-pump CABG, but those not tolerating were electively converted to on-pump CABG. The surgical strategy included a median sternotomy approach, and data was collected during follow-up visits with telephonic phone calls at an average of 72 months. The major primary outcome was mortality due to any cause and secondary cardiovascular cause.

Results: The primary mortality was seen in 16% of the population (15 patients), with early mortality (within one month) reported in 6.13% at 72 months (figure 1). Common reasons for primary mortality were renal failure, stroke, and deep wound infection. The secondary outcome was determined in 21% of the patient at 72 months with no intraoperative or table mortalities. Our cohort had a median survival rate of 63 % at 72 months.

Conclusion: Our single tertiary care center study showed a survival rate of 63% in patients with an ejection fraction of 30% or less who underwent surgical revascularization at 90 months. The study is different as it is the only data registry for the Asian Pakistani population, with a low ejection fraction (<30%). It ratified the STITCHES (STICH extension STUDY) results and showed augmented survival benefits in patients undergoing surgical revascularization when equated with a survival rate of a similar population in contemporary data.




ID: **15**

Presentation Type: **Oral**

# PREDICTORS OF LATE OUTCOMES OF CABG WITH INTRA-AORTIC BALLOON PUMP (IABP) SUPPORT IN HIGH-RISK PATIENTS WITH ACUTE CORONARY SYNDROME(DETERMINANTS OF EVENTS-FREE SURVIVAL).

**Kamran MUSAYEV**[1], **Fuad ABDULLAYEV**[2], Rafiq IBRAGIMOV[1], Ramil ALIYEV[1], Larisa SHIKHIYEVA[2], Akram MIRZAI[2]

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BACKGROUND: Predictors of long-term results of CABG with IABP support presented debatable in a very few publications. The aim of study was to verify determinants of long-term outcomes following CABG with IABP support on 1-15 years (mean 6.7±0.4y.) monitoring.

MATERIAL: 2070 patients with acute coronary syndrome underwent CABG in 2002-2019. Of them, 97(4,7%) patients were considered high(Euro SCORE II=2.31±2.1), and very high-risk (Euro SCORE II=2.75±2.4) cohort, with necessity for IABP support. 75.4% of 58 survived patients studied on 10years; 24.6% - on 10-15years monitoring after surgery. 80.7% patients underwent isolated CABG; 19.3% - CABG with repair of mechanical complications of the myocardial infarction(MI). 31.6% patients underwent surgery in NYHA class III; 68.4% - in NYHA class IV.

Results: Clinic improvement verified in 84.2% studied, comprising 77.8% vs. 87.2% patients underwent surgery in III vs. IV class. 15.8% studied had poor results comprising 22.2% vs.12.8% patients underwent surgery in NYHA class III vs. class IV. Cardiac mortality on 100 months monitoring comprised 8.8%. Survival on 1-3-5years comprised 100%-96.2%-91.4%; on 7-10-15years - 91.4%; 86.4%; 86.4%. Mortality on 1-3-5years comprised 0%-3.8%-8.6%; on 7-10-15 years - 8.6%; 13.6%; 13.6%. Events-free survival on 1-3-5years comprised 100%-96.2%-91.4%; on 7-10-15 years - 88.3%; 74.9%; 5.7%. Re-angina revealed in 10.5% patients on 4-12years later surgery. Good and satisfactory long-term outcomes most true were determined with: 1). Less frequency of interventions in acute MI, and shock, rather than in unstable angina, comprised 33.3% vs. 66.7% ($p<0.001$); 2). Delay surgery >48 hours after admission vs.≤24-48 hours in 63.2% vs.36.8% patients ($p=0.006$); 3).IABP connection in Op/room rather than ICU in 86% vs.10.5% patients ($p<0.001$); 4).IABP connection ≤100min. following onset of unstable hemodynamic in 91.2% studied, comprised: 41.8±2min in 73.7% patients; 92.4±3.1min - in 17.5% patients; >100min (161.8±2min) - in 8.8% patients ($p<0.001$). In those who underwent surgery in NYHA class III vs. class IV, time of IABP onset in Op/room comprised 49.6±7.4min. vs.58.9±7.5min.($p=0.382$); in ICU - 14.5±0.7hours vs.11.7±8hours beyond surgery ($p=0.719$); 5).Completeness of revascularization with number of anastomosis=3.83±0.3; 6).Predominance of aortic cross-clamping time ≤90min. rather than >90min. in 80.7% vs.19.3% patients ($p<0.001$).

CONCLUSION: Events-free survival following CABG with IABP support more true determined with delay CABG, and timing of IABP connection ≤40-60min. from the onset of hemodynamic instability. In patients underwent surgery background stable hemodynamic but predictable looking low cardiac output beyond weaning from CPB, preferable IABP connection immediately after proximal anastomosis completeness. The IABP support should be regarded as an indirect predictor of long-term outcomes of CABG with IABP support.

ID: **80**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

# SHORT-TERM RESULTS OF PATIENTS WHO UNDERWENT MITRAL VALVE REPLACEMENT AND CORONARY ARTERY BYPASS SURGERY IN ISCHEMIC MITRAL REGURGITATION

**Mehmet Ali YEŞİLTAŞ**, Ali Aycan KAVALA, **Onur Emre SATILMIŞ**

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OBJECTIVE:

The most common cause of secondary mitral regurgitation (MR) is ischemic coronary artery disease. Although intervention in valve pathology in addition to coronary artery disease has a negative effect on mortality and morbidity in these patient groups, it has an important place in the treatment strategy. In this study, we examined the short-term results of patients who underwent mitral valve replacement (MVR) and coronary artery bypass grafting (CABG) in patients with ischemic mitral regurgitation.

METHOD

All patients with ischemic heart disease and moderate/severe MR were analyzed retrospectively between September 2017 and September 2020. Patients with known valve disease who underwent emergency surgery were not included in the study. Aortic arterial and bicaval venous cannulation and antegrade blood cardioplegia were performed in all patients. Mechanical MVR was applied in all patients. Posterior chordae were preserved in all of these patients. Demographic data of the patients, postoperative mortality and morbidities were analyzed retrospectively. It was evaluated with echocardiography (ECHO) in the first month postoperatively.

RESULTS:

53 patients were examined. 37 (69.81%) were male and 16 (30.19%) were female. Mean age was 64 ± 8. Mean Ejection Fraction (EF) was 42.4 ± 6.2, 5 patients (9.43%) had moderate MR, 48 patients (90.57%) had severe MR. Three vessel coronary artery bypass grafting (CABG) was performed in 27 patients (50.94%) who underwent MVR, 4-vessel CABG in 21 patients (39.62), and 2-vessel CABG in 5 patients (9.44%). The mean cross-clamp time was 56 ± 12 minutes. Three patients (5.66%) needed a temporary pacemaker after the development of block. One of these patients (1.88%) needed a permanent pacemaker. 12 (22.64%) patients were taken to the intensive care unit with low-dose support and 5 (9.43%) high-dose inotropic support. Preoperative intra-aortic balloon pump was required in 1 patient who received high-dose inotropes. Transient cerebrovascular accident occurred in 2 patients (3.77%). Myocardial infarction did not develop in any patient during peroperative and hospitalization. Average intensive care stay is 2.5 ± 1.1 days. Total hospital stay was 7.2 ± 2.6 days. No mortality was observed during hospitalization. In the postoperative 1st month ECHO, it was observed that EF increased by 46.4% ± 7.4. No valve pathology was observed.

CONCLUSION:

Patients who underwent MVR and CABG for ischemic MR have acceptable mortality and morbidity in the postoperative period. In addition, these two procedures applied in the same period showed a significant increase in ejection fraction at 1-month follow-up. Long-term follow-up, larger number of patients and prospective studies are needed

ID: **318**

Topic: **Cardiovascular Surgery > Minimally invasive CABG**

Presentation Type: **Oral**

# LACTATE ELEVATION IN THE POSTOPERATIVE PERIOD IN PATIENTS WITH ENDOSCOPIC SAPHENOUS VEIN HARVESTING

**Mustafa DAGLI**[1], Ali SARIGÜL[2]

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[2]*KTO University;Medicana Konya Hospital, Konya, Turkey*

Aim:

Endoscopic saphenous vein graft preparation (EVH) is a surgical technique that has been routinely used in some clinics in recent years, reducing morbidity and increasing patient satisfaction in the postoperative period.

Our aim is to draw attention to the fact that CO2 accumulated in the adipose tissue can cause an increase in lactate after the operation, since the amount of CO2 used in the graft preparation stage is time-dependent.

Method:

Saphenous vein grafts (SVG) between January 2021 and September 2022 at Medicana Konya Hospital; 17 cases prepared by the endoscopic method (The VasoViewTM System, Maquet) using closed, carbon dioxide insufflation were examined.

The length of the patients' SVGs prepared with the endoscopic technique, the total SVG preparation time, postoperative pain scores, local findings such as hematoma-wound infection, Body mass index (BMI) and postoperative blood gas follow-ups and other complications were recorded.

Results:

SVG was prepared by the EVH method in all patients. Partially unusable segments were detected due to local dissection areas observed in SVGs prepared in 1 patient.

In 1 patient, since it did not progress in the fascia of the saphenous vein, the transition to the open method was performed partially by making an additional incision.

In 2 patients with high BMI and long operation time, isolated lactate elevation was detected in the blood gas after the operation.

Conclusion

In many randomized studies, the positive aspects of EVH have been reported. The low rate of wound infection, the low need for hospitalization and rehospitalization, and the significantly less postoperative pain in both the early and late postoperative periods show parallel features with the results we obtained in our study.

Although it is known that EVH is successful in terms of both the patient's cosmetic satisfaction and reducing postoperative morbidity.

If the removal time is long in individuals with high BMI during removal, isolated lactate elevation may develop.

**Oral Presentation Session**

**Novelties In Varix Treatment**

**Date: 02.12.2022 Time: 14:00-15:00 Hall: 5**

ID: **301**

Topic: **Cardiovascular Surgery > Varicose veins**

Presentation Type: **Oral**

# COMPARISON OF ENDOVENOUS OBLITERATION TECHNIQUES AND STRIPPING OPERATIONS IN THE TREATMENT OF VENOUS INSUFFICIENCY

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[2]*Ankara University , Ankara, Turkey*

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Objective

We aim to compare the effectiveness of vena safena magna stripping surgery,EVLA and RF ablation treatment choices in reducing symptoms for grade III-IV superficial venous insufficiency.

Methods

832 patients with grade III-IV superficial venous insufficiency and CEAP 2,Ep (primer),As1-3(superficial varicous vein),Pr (reflux) analysed in this prospective randomized trial. Age, gender, BMI, bilateralite, VSM diameter at saphenophemoral junction, energy type in EVLA (980 nm or 1470 nm), recurrence, venoactive drug and compressive stockings usage, postoperative pain measured with VAS, parestesia and echymosis, return to normal life, postoperative hiperpigmentation, wound infection, EHIT, pulmonary thromboembolism, QoL and CEAP classification befor and after treatment criterias are used to compare technics.

Our study included 832 patients who underwent classical stripping, EVLA and RFA treatment for venous insufficiency between October 2011 and January 2016. The total number of lower extremities treated was 1390.

The mean age of the patients was 43,86 ± 10,6 and ranged from 18 to 78. There were 347 male (41,7%) and 485 female (58,3%) patients in the study. The change of VAS value detected significant different between two groups ($P<0.001$). And results are given by statistical analyses.

Inclusion criteria;

1- Venous insufficiency (Saphenofemoral incompetence, reflux detected for more than 0,5 seconds in SFJ with doppler ultrasound, VSM diameter equal to or greater than 0,5 cm above knee level at least.)

2- Symptoms due to incompetence.

3- Age between 18 and 80.

4- Good performance status.

Exclusion criteria;

1- Previous treatment of ipsilateral VSM

2- Deep venous insufficiency or thrombosis

3- Acute deep enous thrombosis or postthrombotic syndrome

4- Use of anticoagulation

5- Agenesis of deep venous system

6- Pregnancy

7- Heart failure

8- Having a condition that will create a contraindication to any of the treatments to be applied.( e.g. allergy to aetoxysclerol or lidocaine)

9- Immobilisation

10- Peripheral artery disease (Ankle brachial index <0,6)

11- Age under 18.

12- Inability to give informed consent.

Table 1: Characteristics and demographics of the patients during and after the procedure

| | |
|---|---|
| Age (mean±sd) | 43,8±10,6 |
| Male gender n(%) | 347(%41,7) |
| BMI | 26,18±3,49 |
| Right lower extremity (%) | 458 (%52) |
| Left lower extremity (%) | 832 (%94,4) |
| Bilaterality(%) | 141(%16,9) |
| VSM diameter measured at SFJ (mm) (mean±sd) | 7,24±1,26 |
| QoL(SF-36) (1-100) | |
| PCS (preprocedural) | 35,18±3,6 |
| MCS (preprocedural) | 37,76±1,9 |
| CEAP classification (%)(preprocedural) | |
| C2 | 362(%43,5) |
| C3 | 182(%21,9) |
| C4 | 216(%26) |
| C5 | 68(%8,2) |
| C6 | 4(%0,5) |

| | |
|---|---|
| Classical stripping(%) | 358(%43) |
| EVLA(%) | 712(%85) |
| RFA | 62(%7,5) |
| EVLA 980 nm (%) | 354(%42,5) |
| EVLA 1470 nm (%) | 349(%41,9) |
| Venoactive drug (%) | 668(%80,3) |
| Compression therapy (%) | 656(%78,8) |
| Postoperative ecchymosis (%) | 245(%29,4) |
| Postoperative pain (VAS 1-10) | 3,75±2,1 |
| Return to normal life (days) | 3,12±1,2 |
| Postoperative paresthesia (%) | 125(%15) |
| Postoperative hyperpigmentation(%) | 131(%15,7) |
| Wound infection (%) | 28(%3,4) |
| EHİT(%) | 5(%0,6) |
| PTE (%) | 2(%0,2) |
| QoL(SF-36) (1-100) | |
| -PCS (6 mo after procedure) | 48,06±0,9 |
| -MCS (6 mo after procedure) | 353,93±1,91 |

Results

Early technical success is 100% in patients in all groups. When compared according to gender and body mass index, no statistically difference was found in terms of success between methods and the percentage of application.(Image 1)

| | Classical stripping | EVLA | RFA | Pack excision |
|---|---|---|---|---|
| Age (mean±sd) | 43,4±10(p:0,53) | 44,19±10,9(p:0,1) | 43,46±8,1(p:0,71) | 43,3±9,8(p:0,6) |
| Gender(M)(%) | 42,7(p:0,6) | 41,3(p:0,55) | 46,8(p:0,40) | 40,4(p:0,68) |
| BMI | 26,2±3,4 (p:0,84) | 26,17±3,46 (p:0,98) | 26,3±3,56 (p:0,82) | 26,8±3,57 (p:0,004) |
| VSM diameter (mm) | 7,25±1,26 (p:0,72) | 7,24±1,25 (p:0,81) | 7,13±1,19 (p:0,54) | 7,20±1,2 (p:0,77) |
| Reoperation (%) | 0,6 (p:0,7) | 0,7 (p:1) | 16,7 (p:0,37) | 66,7 (p:0,018) |
| Recurrence(%) | 36,4 (p:0,52) | 86,4 (p:1) | 9,1 (p:0,67) | 27,3 (p:0,42) |
| Venoaktive drugs(%) | 43,3 (p:0,78) | 85 (p:0,36) | 7 (p:0,35) | 83 (p:0,31) |
| Compression therapy(%) | 43,1 (p:0,9) | 86 (p:0,52) | 6,7 (p:0,11) | 21,3 (p:0,38) |
| Postoperative ecchymosis(%) | 37,6 (p:0,03) | 72,7 (p:0,001) | 6,9 (p:0,71) | 59,2 (p:0,001) |
| Postoperative pain (VAS 1-10) | 3,58±2,12 (p:0,05) | 3,6±2,1 (p:0,001) | 3,6±2,2 (p:0,52) | 6,2±1,8 (p:0,001) |
| Postoperative paresteisia(%) | 45,6 (p:0,52) | 73,6 (p:0,001) | 6,4 (p:0,62) | 52,8(p:0,001) |
| Return to normal life (days) | 3,13±1,14 (p:0,16) | 3,11±1,12 (p:0,001) | 3,77±1,7 (p:0,003) | 4,04±1,42 (p:0,001) |
| Hyperpigmentation (%) | 17,6 (p:0,001) | 85,5 (p:0,97) | 12,2 (p:0,02) | 87,8 (p:0,001) |
| Wound infection (%) | 85,7 (p:0,001) | 35,7 (p:0,001) | 0 (p:0,25) | 7,1 (p:0,07) |
| EHIT(%) | 20 (p:0,39) | 80 (p:0,54) | 20 (p:0,32) | 100 (p:0,001) |
| QoL PCS (Difference between before and after treatment) | 13±3,5 (p:0,26) | 12,7±3,7 (p:0,065) | 13,3±3,6 (p:0,28) | 12,9±3,9 (p:0,84) |
| QoL MCS (Difference between before and after treatment) | 16,05±2,7 (p:0,17) | 16,6±2,6 (p:0,06) | 16,2±2,8 (p:0,92) | 16,2±2,8 (p:0,44) |
| Reoperation (%) | 0,6 (p:0,7) | 0,7 (p:1) | 1,6 (p:0,37) | 2,3 (p:0,018) |

Conclusions

Venous insufficiency and varicose veins are important health problem that is very common in the population, impairs quality of life and in some cases can lead to serious complication. Incidence in the community varies between 20-40%.

In the last decade, EVLA, RFA and foam sclerotherapy have replaced surgical treatment in most cases in the treatment of venous insufficiency and varicose veins.

The methods applied to the patients included in our study were compared in terms of various parameters and it was determined that each parameter was more important in a different method.

ID: **287**

Topic: **Cardiovascular Surgery > Varicose veins**

Presentation Type: **Oral**

# TWELVE-MONTH FOLLOW-UP OF HYBRID TREATMENT WITH CYANOACRYLATE-BASED CLOSURE AND HIGH-LIGATION OF SAPHENOFEMORAL JUNCTION

**Baran ŞIMŞEK**, Arda ÖZYÜKSEL

*Medicana International İstanbul Hospital, İstanbul, Turkey*

Objective: The objective of this study was to evaluate the long-term safety and effectiveness of hybrid treatment with endovenous Cyanoacrylate-based closure and high-ligation of saphenofemoral junction for incompetent great saphenous veins.

Methods: This is a retrospective, single-arm, single-center study to assess the effectiveness and safety of hybrid treatment for incompetent great saphenous veins. Thirty subjects were treated by injection of Cyanoacrylate under ultrasound guidance in addition with high-ligation of saphenofemoral junction. Periodic scheduled follow-up was performed during 12 months.

Results: Complete occlusion of the treated veins was confirmed by duplex ultrasound in all subjects at twelfth month follow-up. The mean Venous Clinical Severity Score (VCSS) improved from 6.3 ± 2.6 at baseline to 2.3 ± 0.5 at month 12. Pain, edema, and varicosities improved in 90 % of subjects, respectively at month 12. Overall adverse events were not encountered in any of the patients.

Conclusions: Hybrid treatment appears to be an effective and safe treatment for incompetent great saphenous veins with no reported serious adverse events.

**Challenging In Valve Surgery And Beyond |**
**Date : 02.12.2022 Time : 15:15-16:15 Hall : 5**

ID: **276**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# SURGERY OF BRUCELLA TRICUSPID ENDOCARDITIS : A CASE REPORT.

**Abderrahmene BABOURI**

*Ehs Dr Djaghri mokhtar Constantine, Constantine, Algeria*

Introduction: brucella tricuspid endocaditis is a very rare. The diagnostic is made by serology and echocardiography (TTE).This new report case is an opportunity for us to make a reminder of this little-known entity among cardiologists and heart surgeon.

Methods: We report the case of 15 years old children who present persisant fever and dyspnea.The physical exam found asystolic murmur, chest X-ray showed cardiomégaly, TTE demonstrated vegetations in chordate, papillary muscle , infundibulum ,and left pulmonary artery with tricuspid insufficiency III,pulmonary angiography: proximal emboli of left pulmonary artery, positives blood culture: Brucella melitensis and serology positive. Excision of tricuspid and pulmonary vegetations and tricuspid repair under cardiopulmonary bypass.

Results: aortic clamping: 72 mn, duration of CPB: 90 mn.The immediate postoperative course was simple.

Conclusion: Brucella endocarditis is an uncommon, but serious complication of brucellosis. The tricuspid valve is rarely affected cardiac valve. Due to characteristics of the infection, medical therapy alone is not sufficient in treating the disease and best results are obtained with surgery combination. We describe a case of Brucella endocarditis involving the tricuspid valve suspected in front of the clinical data and the results of serology, confirmed by the culture of the native valves .In association with the medical treatment, management valve surgery lead to a favorable medium-term evolution.

Key words: Brucella endocaditis , tricuspid valve, cardiopulmonary bypass.

ID: **311**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Oral**

# MECHANICAL VALVES IN THE PULMONIC POSITION: SINGLE CENTER EXPERIENCE AND MID-TERM RESULTS

**Safak ALPAT**, Timucin SABUNCU, Ahmet AYDIN, Mustafa YILMAZ, Rıza DOĞAN

*Hacettepe University School of Medicine, Ankara, Turkey*

Background and Aim

Pulmonary valve replacements is more commonly performed procedures as the population with congenital heart diseases has been growing. Despite there are studies showing good outcome with mechanical valves in pulmonic position, many surgeons feel obliged to recommend against a mechanical valve for PVR. In here, we report our experience and mid-term results with mechanical PVR.

Methods

Between 1985 and 2020, 59 patients underwent pulmonnary valve replacement with mechanical valve in our unit. Pre-, intra, and post-operative data were collected and analyzed.

Results

Fiftynine patients (48 males, 11 females) underwent PVR with mechanical valves. Mean age was 17 ± 8.6 years (range: 4–40 years). TOF was the main etiology in 83% of patients. Several concomittant procedures were done with PVR; tricuspid valve repair/replacement, surgical ablation and residual defect closures. There was no operative mortality. At the median follow-up of 7 years (2 to 33 years), failure of the mechanical valve requiring reoperation was seen in 7 patients. Characteristics of those patients are given in Table-1. No major bleeding event was seen.

Conclusion

Although most centers prefer biologic valves, mechanical valves are associated with a limited risk of thrombosis. Recent reports showed thrombolytic treatment has promising results, we believe reoperation is also safe when thrombosis faced.

| Patient | Age at PVR | Valve Size | Valve Failure | Valve Failure Detected Years after PVR | Reoperation | Valve at reoperation |
|---|---|---|---|---|---|---|
| **1** | 7 | #21 | Pannus | 15 | Re-PVR + TV repair | #25 biologic |
| **2** | 8 | #25 | Thrombus | 2 | Thrombus removal | - |
| **+3** | 8 | #25 | Thrombus | 33 | Thrombus removal | - |
| **4** | 19 | #25 | Thrombus | 2 | Thrombus removal | - |
| **5** | 14 | #21 | Pannus | 2 | Re-PVR | #23 biologic |
| **6** | 10 | #25 | Thrombus | 3 | Re-PVR | #25 biologic |
| **7** | 17 | #27 | Pannus | 1 | Re-PVR | #27 biologic |

ID: **286**

Topic: **Cardiovascular Surgery > Minimally invasive mitral valve surgery**

Presentation Type: **Oral**

# MINIMALY INVASIVE VALVE SURGERY VIA LATERAL MINITHORACOTOMY "MIAMI METHOD": DIRECT VISION APPROACH

**Mugisha KYARUZI**[1], Harun GÜLMEZ[2], Hakkı Kürşat ÇETIN[3]

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*[2]kolan hospital group, Istanbul, Turkey*

*[3]Department of Cardiology, University of Health Sciences, Sisli Hamidiye Etfal Training and Research Hospital, Istanbul, Turkey*

MINIMALY INVASIVE VALVE SURGERY VIA LATERAL MINITHORACOTOMY "MIAMI METHOD": DIRECT VISION APPROACH

ABSTRACT

Background

Minimally invasive valve surgery is emerging as a routine approach for many centers around the world. The approach for valve surgery includes right minithoracotomy with the aid of port camera or robotic assisted. We would like to present our experience via miami method which is done under direct vision.

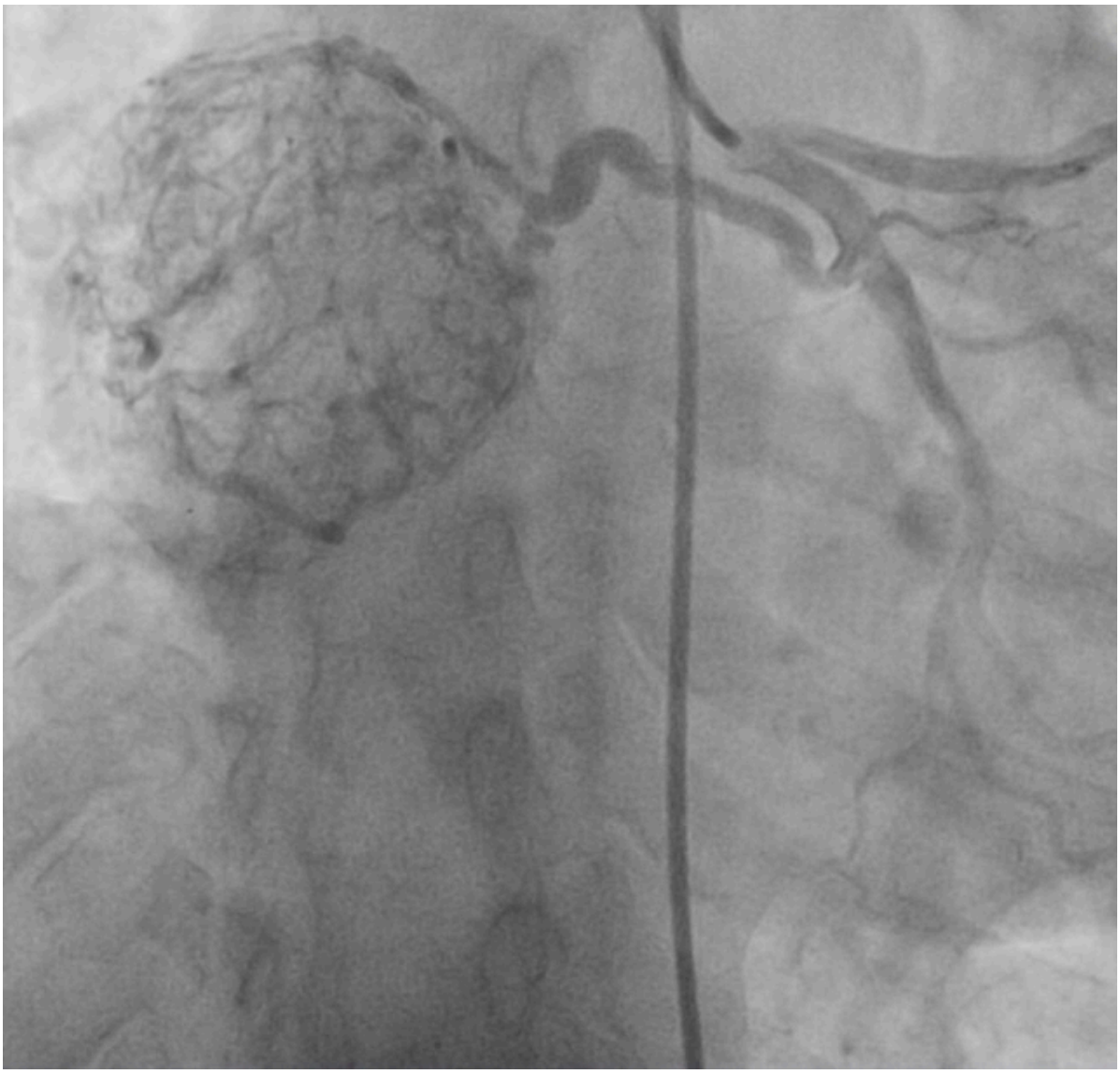
Methods:

We analysed the baseline characteristics ,operative characteristics and postoperative outcomes of patients who underwent minimally invasive valve surgery via miami method between May 2021-september 2022.
Results:

Our experience includes 18 patients(14 males, 4 females). The mean age was 63±11. 1 patient had a history of congestive heart failure, 7 patients had chronic obstructive pulmonary disease, 1 patient had a history of chronic renal disease under medication. 4 patients had received aortic and mitral valve replacement, 3 patients had received aortic valve replacement, 5 patients had received mitral valve replecement,3 patients had mitral valve repair, 2 patients had received mitral and tricuspid valve repair, 1 patient had mitral and tricuspid valve replacement. There was no mortality. One patient had revision for bleeding, The mean CPB time was 147±33 minutes,the mean CCT was 98,5±23,0 minutes, the mean ICU stay was 18,0±3,1 hours,the mean hospital stay was 4,2±0,8 days

Conclusion:

Despite the low number of patients minimally invasive valve surgery via miami method is safe,feasible,cost effective and short learning curve with less morbidity,mortality as well as improved postoperative outcomes.



**RESULTS**

In the operation performed under cardiopulmonary bypass, a firm, encapsulated, well-circumscribed solid tumor of 2.5x3.5 cm in size originating from the IAS was observed in the right atrium. Wide area resection was achieved with tissue layers of the mass. The defect in the IAS was repaired with a pericardial patch. In the pathology report of the removed mass; It was observed that the mass was compatible with paraganglioma and the surgical margins were negative.

**CONCLUSIONS**

Although atrial myxoma is the most common intracardiac tumor, atypical findings in preoperative examinations should also bring to mind other rare primary cardiac tumors such as paraganglioma, and surgical preparations should be made under detailed examination and effective medical treatment. Surgical resection should be wide and should be in exact tissue thickness in tumors with a potential for recurrence, such as paraganglioma.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ID: **332**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# MINIMALLY INVASIVE APPROACH FOR REDO CARDIAC OPERATIONS

**Mustafa Serkan DURDU**[1], Fatih GUMUS[2], Mehmet CAKICI[2], Fatih GUMUS[2]

[1]*Memorial Ankara Hospital, Ankara, United States*

[2]*Memorial Ankara, Ankara, United States*

OBJECTIVES:

Advance technological improvement has facilitated the implementation of minimally invasive approaches in cardiac surgery even for redo interventions. Redo heart valve surgeries via sternotomy are associated with a substantial morbidity and mortality. This study evaluated the feasibility and safety of minimally invasive technique for heart valves implantation in patients undergoing redo cardiac surgery and compared postoperative outcome with conventional approach.
MATERIAL AND METHODS:

385 patients underwent aort, mitral and/or tricuspid valve repair or replacement via a right minithoracotomy between June 2013 and December 2021 in our center, 45 patients underwent redo valve surgery using a minimally invasive approach. Previous cardiac surgeries included 14 patients with aortic and mitral valve replacement and 19 patients with coronary artery bypass grafting (CABG), 12 patients with mitral valve repair or replacement . In all cases, femoro-femoral cannulation was performed. 3D-video assisted access technique was applied in all patients concomitantly. Most of the operation was performed using normothermia cardiopulmonary arrest except in the cases with isolated triscupid valve repair or replacement (n=5). In addition, continuous carbon dioxide is used, and adequate deairing is monitored by transesophageal echocardiography.
RESULTS:

In all cases, sternotomy was avoided. The mitral valve was replaced in 20 patients and repaired in 19. The outcomes of patients (in-hospital mortality, 1.55%) are encouraging and intraoperative times are highly competitive with the standard full sternotomy. Time of surgery and cross-clamp time were comparable with the conventional approach (168+/-73 [redo] vs 168+/-58 min and 52+/-21 [redo] vs 58+/-25 min. Two patients had transient hemiplegia due to air embolism. All other patients had uneventful outcomes and normal valve function at first year follow-up.

CONCLUSION:

Redo valve surgery can be performed safely using a minimally invasive approach in patients with a previous sternotomy. The right anterior or lateral minithoracotomy offers excellent exposure. It minimizes the need for cardiac dissection, and thus, the risk for injury. Avoiding a resternotomy increases patient comfort of redo mitral valve surgery.

**Oral Presentation Session**

**New Horizons in Cardiac Imaging: Clinical Applications**

**Date: 02.12.2022 Time: 16:00-17:00 Hall: 4**

ID: **83**

Topic: **Cardiology > Treatment of obesity and diet in cardiovascular disease**

Presentation Type: **Oral**

# THE ROLE OF ECHOCARDIOGRAPHIC PARAMETERS AND SERUM GALECTIN-3 LEVELS IN DETECTION OF POTENTIAL CARDIAC REVERSE REMODELLING AFTER OBESITY SURGERY

**Ömer TEPE**[1], Orçun YALAV[2], Ali DENİZ[1], Mehmet KANADAŞI[1], Onur Sinan DEVECİ[1]

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[2]*Çukurova University Faculty of Medicine, Department of Surgery, Adana, Turkey*

Objective: Obesity is a global health problem with an increasing prevalence, which shortens life expectancy due to its co morbidities. Obesity can cause changes in cardiac morphology that predisposes to cardiac dysfunction. The frequency of using bariatric surgical methods in the treatment of obesity is increasing day by day. Laparoscopic sleeve gastrectomy (LSG) is one of the most important surgical options in the treatment of morbid obesity today. In our study, we aimed to evaluate the effect of LSG on cardiac reverse remodeling and cardiac fibrosis.

Materials and Methods: 72 consecutive obesity patients who had LSG surgery due to obesity at Çukurova University Medical Faculty Balcalı Hospital and 72 healthy individuals were examined between 2020 and 2022. Demographic data, anthropometric measurements, laboratory characteristics, Galectin-3 (Gal-3) and echocardiographic parameters of the patients and the individuals in the healthy group were evaluated.

Results: The mean age of the patients who were included in the study was 34.7±10.2 years, 105 (72.9%) of them were female. Postoperative mean body mass index (BMI) decreased from 43.6±4.2 kg/m² to 29.4±3.8 kg/m². A statistically significant decrease was observed in body weight loss, BMI and body surface area (BSA) in the surgical group. Besides, there was a significant increase in mean Mitral E peak velocity ($p < 0.001$) and E/A ratio ($p < 0.001$) in postoperative follow-up and there was a significant decrease in left atrial (LA) size ($p=0.015$), left ventricular end-diastolic diameter (LVEDD) ($p < 0.001$ ), left ventricular mass (LVM) ($p < 0.001$), LA volume (LAV) ($p < 0.001$), LA volume index (LAVI) ($p < 0.001$) and mean Mitral A peak velocity ($p < 0.001$). In the patient group, a statistically insignificant decrease was observed in the Gal-3 value after the surgery compared to the preoperative period (9.0±4.6 vs. 7.8±3.8, $p=0.146$).

Conclusions: Effective weight loss was achieved in the short term with LSG. Significant improvements were detected in both systolic and diastolic functions with LSG. During the 6-month follow-up after surgery, Gal-3 level was not found to be significant. Long-term follow-up may be required to evaluate the change of LSG over Gal-3.

ID: **229**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# IMPACT OF NON-DIPPER PATTERN ON ECHOCARDIOGRAPHIC MYOCARDIAL WORK INDICES IN HYPERTENSION PATIENTS

**Cüneyt TOPRAK**

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Background: It is known that non-dipper pattern (NDP) is associated with impaired myocardial work (MW), as a new echocardiographic examination method, in normotensive individuals. However, there is insufficient data on the outcome of NDP in hypertensive patients. This study was performed to investigate the association between NDP and MW by non-invasive left ventricular pressure–strain in a population of hypertensive individuals

Methods: This study included 84 hypertensive patients who were followed by ambulatory blood pressure monitoring. Patients were classified as dippers and nondippers according to their nighttime mean arterial blood pressure reduction rate of ≥10 or <10%, respectively. All participants underwent conventional echocardiography, as well as 2D speckle-tracking echocardiography to assess MW by non-invasive left ventricular pressure–strain and global longitudinal strain.

Results: This study found that compared with the DP group, the NDP group had a significantly increased global work index (GWI), global constructive work (GCW), global waste work (GWW) and significantly decreased global work efficiency (GWE). The association remained significant after adjusting for major confounding factors in multiple linear regression analysis. The areas under the ROC curve of NDP for predicting abnormal GWI, GCW, GWW, and GWE were 0.664, 0.687, 0.745, and 0.788, respectively (all $p < 0.05$).

Conclusion: NDP is significantly associated with all four components of MW using non-invasive left ventricular pressure-strain method in a population of hypertensive individuals.

ID: **213**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# ALTERATIONS IN RIGHT VENTRICULAR MECHANICS IN PATIENTS WITH BEHCET'S DISEASE

**Lale DINC ASARCIKLI**[1], Fatih SARITAS[2], Tolga Sinan GUVENC[3], Fatma CAN[1], Sena SERT[1], Rengin CETIN GUVENC[4], Esra POYRAZ[1], Sennur UNAL DAYI[1]

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*[2]Haydarpasa Numune Research and Training Hospital, Department of Rheumatology, Istanbul, Turkey., Istanbul, Turkey*

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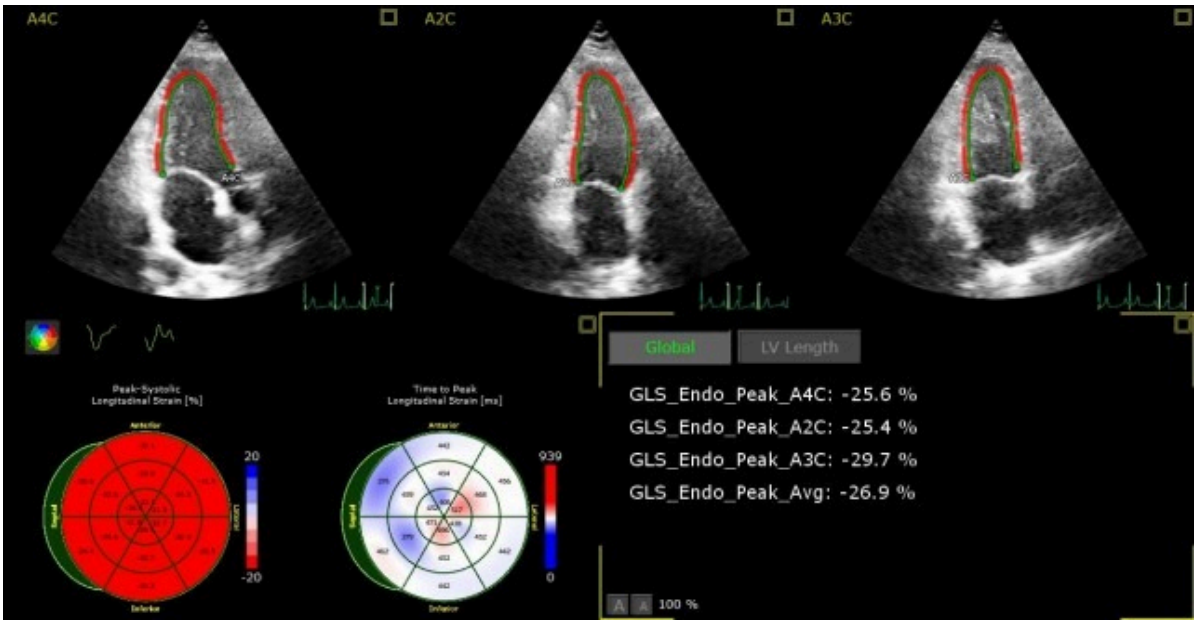
Background: Manifest myocardial involvement is somewhat rare in patients with Behcet's disease (BD), although echocardiographic studies suggest that subclinical alterations in left ventricular (LV) contractility is rather common. Data on right ventricular (RV) involvement in BD is rather scarce.

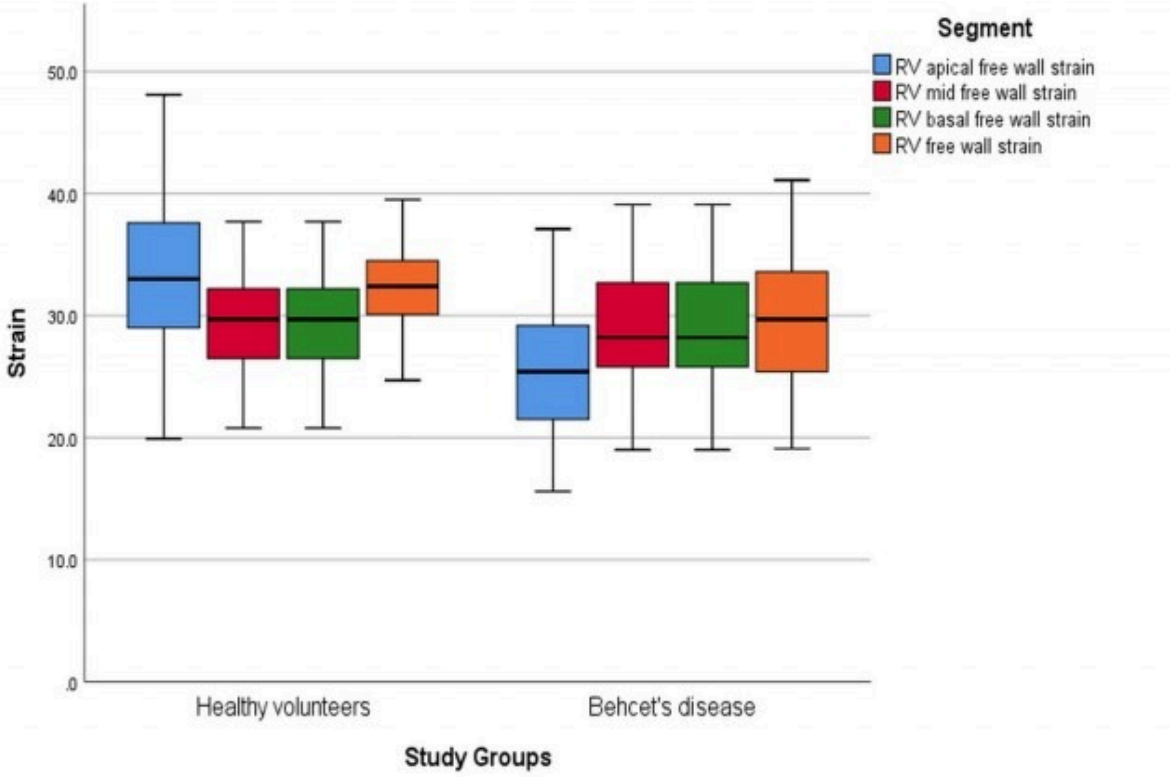
Aims: To determine whether RV systolic performance is affected in BD patients, and to understand the clinical and echocardiographic correlates of RV contractility in these patients.

Methods: 45 patients who fulfilled the criteria for BD and 45 age and gender-matched controls were enrolled. All participants underwent a comprehensive echocardiographic examination (Fig 1), including deformation imaging, to characterize RV mechanics.

Results: Conventional morphologic and echocardiographic indicators of RV morphology and function were not different between groups, but RV apical strain and RV free wall strain (FWS) were significantly lower in BD patients as compared to the controls ($p<0.001$ and $p=0.02$, respectively) (Fig 2). The only significant correlates of FWS were tricuspid regurgitation velocity and related indices in healthy controls, while FWS correlated with LV global longitudinal strain (GLS), morphologic measures of left and right atria and ventricles, and with conventional measures of right ventricular contractility. The relationship between FWS and GLS remained statistically significant after adjusting for other clinical and echocardiographic parameters ($\beta=0.379$, $p=0.01$).

Conclusions: In patients with BD, there is a subclinical alteration in RV contractility and the degree of alteration in the RV systolic performance paralleled that of LV. Thus, the present results support the presence of RV involvement in these patients.


A4C
A2C
A3C
Global
LV Length
GLS_Endo_Peak_A4C: -25.6 %
GLS_Endo_Peak_A2C: -25.4 %
GLS_Endo_Peak_A3C: -29.7 %
GLS_Endo_Peak_Avg: -26.9 %
100 %


Segment
RV apical free wall strain
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RV basal free wall strain
RV free wall strain
Strain
50.0
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Healthy volunteers
Behcet's disease
Study Groups

ID: **41**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# HAND-HELD ECHOCARDIOGRAPHY FOR ASSESSMENT OF COMPLICATIONS DURING COMPLEX ELECTROPHYSIOLOGIC PROCEDURES

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BACKGROUND

Today, more complex procedures are used for the treatment of arrhythmias in the electrophysiology (EP) laboratory. Echocardiography is the most widely used imaging technique in EP laboratories for the assessment of these cardiovascular complications. In this study, we aimed to compare Hand-held echo (HHE) with standard echo (SE) to determine if it is safe and fast to use HHE during complex procedures in the EP laboratory.

METHODS

A total of 71 patients who underwent complex EP procedures at a single center were consecutively included in this prospective and observational study, between Jun 15, 2020 and May 15, 2021. Radiofrequency (RF) catheter ablations performed with a three-dimensional mapping system (EnSite Precision™ Cardiac Mapping System) or AF ablations using a second generation cryoballoon were defined as complex electrophysiologic (EP) procedures. HHE (Vscan, GE Vingmed Ultrasound, Horten, Norway) and SE (GE Vingmed Ultrasound with an M3S probe) were performed in all patients by experienced two echocardiographers before and after the procedures. Another blinded echocardiographer revised HHE and SE. Presence and severity of valvular regurgitation, presence or absence of left ventricular thrombus and pericardial effusion were evaluated. At the same time, the duration and starting time (time of device transport, opening time) of the imaging with SE and HHE, duration time of the echocardiographic evaluation, and procedural features were recorded.

RESULTS

In 71 patients (55.5 (42.2-61.0 years); 60.5% male), 75 consecutive complex ablation procedures were included. Procedures include RF catheter ablation for atrial tachycardia (n=10; 13.3%), atrial flutter /AF (n=12; 16%), premature ventricular complexes (n=27; 36%), atrioventricular node (n=1; 1.3%), ischemic VT (n=3, 4%), epicardial ablation for VT in 2 patients with dilated CMP (2.7%) using the EnSite Precision™ Cardiac Mapping System, and cryoballoon ablations for AF (n=20; 26.7%). Transseptal puncture was performed in 27 (36%) procedures. Pericardial effusion developed in 2(2.7%) patients and emergency pericardiocentesis was performed in 2(2.7%) of these patients due to cardiac tamponade. Mean procedure time was 100 (78-120) min and fluoroscopic time was 28 (16-45) min. Femoral haematoma were seen in 2(2.7%) patients. Procedure-related death or stroke was not observed in any of the patients. When HHE and SE were compared, both the time to reach the echo devices and the evaluation time were found to be significantly shorter with HHE ($p<0.05$, for all).(Table 1)

CONCLUSION

Based on our findings, we conclude that HHE can be used safely for faster diagnosis and management of complications during complex electrophysiology procedures.

**Table 1: Comparison of standard and hand-held echocardiography**

| | Standard echo (n=75) | Hand-held echo (n=75) | P value |
|---|---|---|---|
| Duration of time to reach echo before the procedure, seconds | 60(50-89) | 24(20-26) | <0.001 |
| Duration of time to reach echo after the procedure, seconds | 60(53-89) | 24(20-25) | <0.001 |
| Duration of echocardiographic evaluation before the procedure, seconds | 31(25-40) | 30(21-35) | <0.001 |
| Duration of echocardiographic evaluation after the procedure, seconds | 30(25-40) | 30(25-35) | <0.001 |
| New mitral regurtitation, n(%) | 1(1.3%)* | 1(1.3%)** | 1 |
| New aortic regurtitation, n(%) | 0 | 0 | - |
| Pericardial effusion, n(%) | 2(2.7%) | 2(2.7%) | 1 |
| More severity mitral regurtitation, n(%) | 1(1.3%) | 2(2.7%) | 0,312 |
| More severity aortic regurtitation, n(%) | 0 | 0 | - |
| Left ventricular thrombus, n(%) | 0 | 0 | - |

*mild regurtitation, **modarate regurtitation

ID: **40**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# MYOCARDIAL WORK MAY PREDICT THE RISK OF CARDIOMYOPATHY IN PATIENTS WITH PREMATUR VENTRICULAR COMPLEX

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OBJECTİVE

An increased premature ventricular complex (PVC) frequency is related to increased risk of development of cardiomyopathy. Since diastolic functions are impaired before systolic functions in the development of cardiomyopathy, changes in myocardial work (MW) parameters in patients with PVC may be a predictor of the development of cardiomyopathy.

METHODS

The study involved 56 patients with PVC and 50 healthy volunteers as a control group. A comprehensive echocardiographic examination was done. A speckle tracking echocardiography was used to obtain the left ventricle (LV) global longitudinal strain (GLS) and bull's eye. After that, the software system generated a bull's eye plot of the global MW index and the global work efficiency of the left ventricle for all 17 segments and all MW component values.

RESULTS

Global work index (GWI), global constructive work (GCW), and global work efficiency (GWE) were significantly lower in the patient group. (2377.84 ± 216.52 vs.1818.30 ± 283.73, 2734.00 ± 208.90 vs. 2283.73 ± 321.65, 92.48 ± 2.85 vs. 87.75 ± 3.87, respectively, all p values <0,001) Global wasted work (GWW) was significantly higher in the patient group. (216.80 ± 26.86 vs. 302.13 ± 41.81, p<0,001) Patients were evaluated according to the origin of PVCs and GWI, GCW, GWE were found to be significantly lower and GWW was significantly higher in patients with PVC originating from the right ventricle or epicardial region. (all p values <0,001)

CONCLUSİONS

Patients with PVC had lower GCW, GWI, GWE values and a higher GWW value than the healthy population similar to patients with cardiomyopathy. Therefore; detoriation in MW parameter in patients with PVC may be a predictor of the development of cardiomyopathy.

| | Control Group (n=54) | Patient Group (n=54) | p value |
|---|---|---|---|
| LV-LS 4 chamber (%) | -18.19 ± 1.64 | -18.02 ± 1.77 | 0.619 |
| LV-LS 2 chamber (%) | -20.02 ± 2.56 | -19.46 ± 2.01 | 0.092 |
| LV-LS 3 chamber (%) | -18.37 ± 2.42 | -17.99 ± 2.22 | 0.432 |
| LV-GLS (%) | -18.01 ± 1.77 | -18.50 ± 1.39 | 0.091 |
| GWI (%mmHg) | 2377.84 ± 216.52 | 1818.30 ± 283.73 | **<0.001** |
| GCW (%mmHg) | 2734.00 ± 208.90 | 2283.73 ± 321.65 | **<0.001** |
| GWW (%mmHg) | 216.80 ± 26.86 | 302.13 ± 41.81 | **<0.001** |
| GWE (%mmHg) | 92.48 ± 2.85 | 87.75 ± 3.87 | **<0.001** |
| LVEDV (mL) | 96.29 ± 27.62 | 82.55 ± 20.37 | **0.003** |
| LVESV (mL) | 37.71 ± 12.09 | 32.96 ± 10.28 | **0.023** |
| LAV max index (LA maximum volume/BMI) | 21.15 ± 4.81 | 25.82 ± 6.07 | **<0.001** |
| | **Probable Left Ventricle Origin (n=11)** | **Probable Right Ventricle Origin (n=46)** | **p value** |
| GWI (%mmHg) | 2106.73 ± 144.09 | 1747.80 ± 264.63 | **<0.001** |
| GCW (%mmHg) | 2607.09 ± 98.90 | 2204.69 ± 307.52 | **<0.001** |
| GWW (%mmHg) | 253.18 ± 39.08 | 314.09 ± 33.06 | **<0.001** |
| GWE (%mmHg) | | | |
| | **Probable Endocardial Origin (n=21)** | **Probable Epicardial Origin (n=37)** | **p value** |
| GWI (%mmHg) | 2034.09 ± 98.05 | 1678.68 ± 277.36 | **<0.001** |
| GCW (%mmHg) | 2543.27 ± 104.60 | 2115.79 ± 302.50 | **<0.001** |
| GWW (%mmHg) | 276.68 ± 34.41 | 318.59 ± 38.07 | **<0.001** |
| GWE (%mmHg) | 90.23 ± 1.11 | 86.15 ± 4.17 | **<0.001** |

| **QRS duration** | | |
|---|---|---|
| | **Correlation coefficient** | **p value** |
| GWI (%mmHg) | -0.910 | **<0.001** |
| GCW (%mmHg) | -0.918 | **<0.001** |
| GWW (%mmHg) | 0.891 | **<0.001** |
| GWE (%mmHg) | -0.900 | **<0.001** |
| **Coupling interval** | | |
| | **Correlation coefficient** | **p value** |
| GWI (%mmHg) | 0.966 | **<0.001** |
| GCW (%mmHg) | 0.966 | **<0.001** |
| GWW (%mmHg) | -0.895 | **<0.001** |
| GWE (%mmHg) | 0.918 | **<0.001** |

LV, left ventricle; LS, longitudinal strain; GLS, global longitudinal strain; GWI, global work index; GCW global constructed work; GWW, global wasted work; GWE, global work efficiency, LVEDV, left venticular end-diastolic volüme; LVESV, left ventricular end-systolic volüme; EF, ejection fraction; LAV; left atrial volume

ID: **269**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# EVALUATION OF RIGHT VENTRICULAR FUNCTIONS AT ACUTE PERIOD AFTER LEAD EXTRACTION BY STRAIN ECHOCARDIOGRAPHY IN PATIENTS WITH CARDIOVASCULAR IMPLANTABLE ELECTRONIC DEVICES

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Background: Cardiovascular implantable electronic devices (CIEDs) are widely used to treat symptomatic arrhythmias, prevent sudden cardiac death and improve symptoms and cardiac function. On-going population growth and expanding indications have resulted in a progressive increase in the number of CIEDs. Reflecting this growth, an increasing number of leads need to be removed for various indications. There are no studies showing the acute effect of lead removal on right ventricular (RV) functions. In this study, we aimed to evaluate the acute effect of lead extraction on patients' RV functions by strain echocardiography.

Method: The study included 64 patients who were evaluated in the cardiology outpatient clinic or emergency room between December 2021 and June 2022 and were planned for ICEDs lead extraction for various reasons and were hospitalized in the cardiology service or coronary intensive care unit. Detailed physical examinations of these patients were performed, and wound and blood cultures were taken. In addition to routine blood tests, infection biomarkers C-reactive protein (CRP), erythrocyte sedimentation rate (ESR) and procalcitonin levels were studied. All patients underwent detailed transthoracic echocardiography (TTE) on the first day of hospitalization and within 24 hours of lead removal. RV functions in TTE were evaluated with 2-dimensional Doppler and strain/strain rate echocardiography.

Results: The mean age of the patients participating in the study was 61.3 ± 15 years and 51 (79.7%) were male. The mean time after initial implantation was 72 months (median 13-264 months). In the battery pocket examination, 86% of the patients had an infective appearance (such as discharge, skin erosion, collection), while 14% had no visible signs of infection. While there was no growth in wound and blood cultures in 76.6% (n=49) of the patients, the most reproduced microorganism was staphylococcus epidermidis with 7.8% (n=5) in the patients with growth. While there was no growth in 67.1% (n=43) of the extracted material, the most common microorganism seen in those that did reproduce was staphylococcus epidermidis with 7.8% (n=5). Of the patients who underwent extraction, 2 leads were removed in 45.3% (n=29), 1 lead in 34.4% (n=22) and 3 leads in 20.3% (n=13). An extraction device was used in 43.8% (n=28) of the patients for lead extraction. In the TTE results of the patients, there was a significant decrease in strain echocardiography at the base of the right ventricular free wall (-20.5 vs -18.6%, p< 0.001) and apical (respectively -17.4 vs -16%, p< 0.001) after the procedure compared to the pre-procedural values. In addition, a significant decrease was observed in the tricuspid annular plane systolic movement (TAPSE) value after the procedure (1.6 vs 1.5 cm, respectively, p<0.016). The mean hospitalization period of the patients was determined as 22 days (meadian 5-75 days).

Conclusion: Infections are the most common cause of ICED lead extractions. Staphylococcus epidermidis, a skin flora pathogen, is the most common microorganism that reproduces from wounds and excised materials. Lead extraction causes deterioration in the RV functions of these patients in the acute period. For this reason, it may be vital for patients to keep in mind the complications such as hypotension, dizziness, congestion and syncope that may develop due to decreased RV functions immediately after the extraction procedure in patients with ICED and to plan the treatment accordingly. More importantly, organizing awareness meetings to prevent infections in these patients and, if necessary, antibiotic prophylaxis before non-cardiac surgeries or interventional procedures can reduce ICED lead extraction rates.

**Table 1.Changes in the echocardiographic parameters of the patients before and after the procedure**

| Parameters | Before procedure | After procedure | P value |
|---|---|---|---|
| LVEF, % | 37.6 (15.4- 62) | 37.3 (12.3 - 63) | 0.725 |

| | | | |
|---|---|---|---|
| Septal E', cm/s | 6.8 (2 - 50.3) | 6.3 (3 - 10.9) | 0.763 |
| Lateral E', cm/s | 8.1 (3 - 16.8) | 8.6 (3.1 - 15.5) | 0.093 |
| Mitral E, m/s | 78.3 (15 - 232) | 79.4 (30 - 180) | 0.669 |
| Mitral A, m/s | 68.6 (20 - 150) | 76.1 (26 - 180) | 0.001 |
| Mitral E/A | 1.14 (0.22 - 4.5) | 1.04 (0.33 - 4.38) | 0.034 |
| LVGLS, % | -12.2 (-21 - -4.5) | -12.2 (-21.2 - -4.1) | 0.666 |
| LA volume, mL | 23.2 (10.3 - 86) | 21.9 (9.9 - 75) | 0.049 |
| LAVI, mL/m2 | 12.3 (6.3 - 41.7) | 11.7 (6.4 - 36.4) | 0.014 |
| **Severity of tricuspid regurgitation** | | | |
| Mild | 48 (75%) | 44 (68.75%) | |
| Moderate | 12 (18.75%) | 8 (12.5%) | |
| Severe | 4 (6.25%) | 12 (18.75%) | <0.001 |
| sPAP, mmHg | 30.3 (14 - 63) | 31.9 (13 - 76) | 0.3 |
| TAPSE, cm | 1.6 (0.7 - 2.7) | 1.5 (0.7 - 2.4) | 0.016 |
| RV TDI S', cm/s | 10.9 (-29.1 - 21.1) | 11.8 (5.7 - 18) | 0.267 |
| AVC, ms | 377.8 (235 - 619) | 385 (277 - 580) | 0.768 |
| RAV, mL | 18 (8 - 33.5) | 18 (7.4 - 40) | 0.907 |
| RVFWB, % | -20.5 (-35.3 - -9.3) | -18.6 (-34.6 - 27.5) | 0.001 |
| RVFWM, % | -18.4 (-41 - -3.1) | -17.2 (-52 - -6) | 0.197 |
| RVA, % | -17.4 (-33.8 - -6.3) | -16 (-29.9 - -3) | 0.001 |
| RVGLS, % | -19.5 (-33.6 - -9.7) | -17.3 (-33.3 - -2.4) | 0.001 |

**Abbreviations:** A: Late mitral inflow velocity, AVC: aortic valve closure time, E: early mitral inflow velocity, E': early diastolic annular velocity, LA: left atrium, LAVI: left atrial volume index, LVGLS: left ventricular global longitudinal strain, RAV: right atrial volume, RVA: right ventricular apex, RVFWB: right ventricular basal free wall, RVFWM: right ventricular mid cavity free wall, RVGLS: right ventricular global longitudinal strain, RV TDI: right ventricular tissue Doppler imaging, S', systolic myocardial motion, sPAB: systolic pulmonary artery pressure, TAPSE: trikuspid annular plane systolic excursion.

**Table 2. Infection status, culture results and microorganism status in the extracted material**

| **Device pocket inspection findings** | N (64) |
|---|---|
| No appearance of infection | 7 (10.9%) |
| Stream | 14 (21.9%) |
| Skin erosion | 12 (18.8%) |
| Stream + skin erosion | 24 (37.5%) |
| Collection | 5 (7.8%) |
| Isolated lead infection/vegetation | 2 (3.1%) |
| **Wound and blood culture results** | |
| No reproduction | 49 (76.6%) |
| Staphylococcus hominis | 2 (3.1%) |
| Staphylococcus aureus | 4 (6.3%) |
| Staphylococcus haemolyticus | 1 (1.6%) |
| Klebsiella pneumoniae | 3 (4.7%) |
| Staphylococcus epidermidis | 5 (7.8%) |
| **The microorganisms reproduced in the extracted material** | |

| | |
|---|---|
| No reproduction | 43 (67.1%) |
| Staphylococcus hominis | 1 (1.6%) |
| Staphylococcus aureus | 2 (3.1%) |
| Staphylococcus haemolyticus | 1 (1.6%) |
| Klebsiella pneumoniae | 3 (4.7%) |
| Staphylococcus epidermidis | 5 (7.8%) |
| Burkholderia vietnamiensis | 1 (1.6%) |
| Burkholderia cepacia | 3 (4.7%) |
| Achromobacter denitrificans | 1 (1.6%) |
| Staphylococcus capitis | 2 (3.1%) |
| Bacillus altitudin | 1 (1.6%) |
| Corynebacterium species | 1 (1.6%) |
| **Antibiotics used for infection** | |
| Multiple antibiotics | 12(18.8%) |
| Daptomycin | 19(29.7%) |
| Cefazol | 21(32.8%) |
| Meropenem | 4 (6.3%) |
| Tekosit | 2 (3.1%) |
| Vancomycin | 23(35.9%) |
| Gentamicin | 1 (1.6%) |
| Rifampicin | 1 (1.6%) |

**Oral Presentation Session**

**Surgery For Coronary Artery Disease: Challenges and Solutions**

**Date: 02.12.2022 Time: 16:30-17:30 Hall: 5**

ID: **218**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

# EVALUATION OF THE CHANGES IN THE STRUCTURE OF THE MITRAL VALVE AND LEFT HEART IN MID-TERM FOLLOW-UP IN PATIENTS WITH MILD MITRAL REGURGITATION WHO HAD UNDERGONE CORONARY ARTERY BYPASS SURGERY

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BACKGROUND
In this study, changes in the structure of the left heart and mitral valve were studied in the mid-term follow-up of patients suffering from mild mitral insufficiency after coronary artery bypass surgery.

METHODS
Thirty-five patients with mild mitral insufficiency who underwent isolated CABG surgery were referred for post-operative follow-up. The physical exam and transthoracic echocardiography were done by the same practitioner and compared to the results of the preoperative period. Categorical data were used as numbers and percentages, and the paired sample T-test was applied to pre- and post-operative echocardiographic measurements. $P < 0.05$ was considered meaningful.

RESULTS
Patients were found to have considerably increased functional capacity and to be in a lower class of the Newyork Heart Association (NYHA) functional class. It was found that there was no increase in left ventricle ejection fraction (LVEF), left ventricle end-diastolic volume (LVEDV) and left atrium diameter, and a decrease in left ventricle end-systolic volume (LVESV) without statistical significance. The left ventricle end-diastolic diameter (LVEDD) was significantly increased. In this group of patients who did not have mitral valve surgery with coronary artery bypass surgery (CABG), quality of life improved and mitral valve failure did not worsen during the mid-course follow-up.

CONCLUSION
Our study found a good prognosis for the medium-term follow-up of the group of patients with mild mitral insufficiency who underwent CABG surgery. In this group of patients, we believe that by carrying out a detailed evaluation prior to CABG surgery, mitral valve surgery can be avoided and the prognosis may be improved in

the long run by preventing related complications.
Key Words: Mitral insufficiency, coronary artery disease, left ventricle, ischemia.

ID: **188**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# COMPARISON OF CONTINUOUS HIGH-PRESSURE OXYGEN THERAPY (CPAP) WITH HIGH-FLOW NASAL CANNULA (HFNC) AFTER EXTUBATION IN PATIENTS WITH PREVIOUS COVID-19 WHO HAVE UNDERGONE CORONARY BYPASS SURGERY.

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It has been emphasized in studies that the use of postextubation high-flow nasal cannula (HFNC) after coronary bypass surgery provides some advantages. We investigated the effect of the use of this treatment, which has expanded with the Covid 19 pandemic, on the results after coronay bypass in patients who have previously had covid 19.

Our study is a single-center retrospective study. A total of 68 patients (HFNC group n: 38, Standart group n: 30) who had coronary bypass operation at Bakırçay University Çiğli Training and Research Hospital between March 2020 and May 2022 and who had covid-19 1 month ago at the earliest were included in our study. Patients requiring emergency surgery and/or not waiting 1 month, patients with previously known advanced COPD, and patients with EF of 30% or less were not included. In addition, patients who underwent valve surgery and additional operations to coronary surgery were excluded from the study.
The most common complication in intensive care unit after coronary bypass surgery is hypoxia. With HFNC treatment, patients' adherence to oxygen therapy increases, and significant improvement in atelectasis and blood gas values is detected. However, it was seen that there was no change in the intensive care unit stay. In prolonged use of HFNC, it causes nosebleeds, dry nose and sense of smell disorder.

ID: **240**

Topic: **Cardiovascular Surgery > Perfusion course**

Presentation Type: **Oral**

# THE EFFECT OF DEL NIDO CARDIOPLEGIA ON MYOCARDIAL PROTECTION AND ARRHYTHMIA

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**Background**: In this study, it was aimed to compare the intraoperative and postoperative results of the use of conventional blood cardioplegia and del nido cardioplegia solution in terms of myocardial protection and the formation of arrhythmias.

**Methods**: This was a randomized controlled prospective study. The study population consisted of 822 patients who underwent isolated coronary artery bypass graft surgery (CABG) performed between March 2016 and May 2020.The patients were classified as Blood Cardioplegia Applied Group and Del Nido Cardioplegia Applied Group. A power analysis was performed to determine the sample size.

**Results**: The groups had similar sociodemographic and clinical characteristics. The DNC group had significantly lower (p=0.044) cross-clamp time, pump time, amount of cardioplegia, use of inotropic agents, and need for defibrillation than the BC group during CABG. The DNC group had significantly lower rates of hospitalization, right ventricular dysfunction, atrial fibrillation, ventricular arrhythmia, and mortality rates than the BC group.

**Conclusion**: These results indicate that the DNC is an easy-to-use procedure for CABG patients because it provides short ischemic and cardioplegia time and less oxidative stress and hyperkalemic arrest.

ID: **109**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# INTRA-AORTIC BALLOON PUMP SUPPORT IN PATIENTS DIAGNOSED WITH EMERGENCY CORONARY ARTERY BYPASS GRAFTING (CABG) UNDERGOING ACUTE MYOCARDIAL INFARCTION: OUR SINGLE CENTER RESULTS

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BACKGROUND

In acute myocardial infarction (AMI), emergency coronary artery bypass grafting (CABG) operation should be considered in the first 6 hours of the onset of symptoms in cases of invasive cardiological interventionsor in cases of unsuccessful course as a result of thrombolytic applications.In addition to medical treatment, Intra-Aortic Balloon Pump (IABP) support can be given until the patients are taken to the operation.In this study, we aimed to retrospectively investigate the support of Intra-Aortic Balloon Pump(IABP) in the preoperative, peroperative and postoperative period of patients who are undergoing Acute Myocardial Infarction(AMI).

METHODS

In this study, 65 patients who had Acute Myocardial Infarction(AMI)between January 2015 and December 2020 at the Cardiovascular Surgery Clinic of Bakırköy Dr. Sadi Konuk Training and Research Hospital who could not recover their general condition with medical and cardiological interventions and who were decided to have emergency operation were retrospectively analyzed.The duration of the operation, demographic characteristics, whether additional intervention was performed, the presence of Intra-Aortic Balloon Pump(IABP) support in the preoperative, peroperative and postoperative period, cross-clampduration, inotropicsupport, duration of intensivecareunitstay, how much blood product replacement was performed and the length of hospital stay were evaluated.

RESULTS

The meanage of the patients was 65.2 ± 3.1 years and ranged from 39 to 83 years.32 (49.2%) patients were female.48 (73.8%) patients had anterior infarction and 17 (26.2%)patients had inferiorinfarction. 59 (90.7%) patients had multivesseldiseaseand 6 (9.2%) patients had left main coronary lesions.Balloonangioplasty was performed on the left anterior descendingartery (LAD) in 25 patients (38.4%).IABP was placed in 10 (15.3%) patients whose preoperative general condition was poor and whose vitals were unstable, and thus they were taken to emergency bypass.The mean duration of reperfusion was 4.2 ± 0.7 hours. Left internalmamarian artery (LIMA)-LAD anastomosis was performed in 29 (44.6%) patients.Saphenousvein was used as a graft in other patients who hadunstable general condition. The mean duration of aortic crossc lamp was 35.3 ± 0.8 minutes.Blood cardioplegia was used in all patientsbecause the patients had lowe jection fractions (EF) dueto AMI. Inaddition to CABG, mitral valve replacement (MVR) was also performed in 4 (6.1%) patients.15 (23.07%) patients who could not break apart from the cardiopulmonarypump despitetriple inotropicsupport were also separated from the cardiopulmonarypumpbyplacing IABP.IABP was also appliedto 40 (61.5%) patients who were taken to the postoperative cardiovascular surgery intensivecare unit, who had a blood gas mixed typeacidosis and had a hypotensive course despite high dose inotropes.The mean length of hospital stay was 15.7 days. Our hospital mortality rate was 13.8% with 9 patients.

CONCLUSİON

We believe that the application of preoperative Intra-Aortic Balloon Pump(IABP) to patients who are diagnosed with emergency CABG as a result of medical and cardiological interventions in patients with cardiogenic shock after acute myocardial infarction(AMI) provides mechanical support for the heart until the operation of the patient, as well as in patients who are undergoing peroperative and postoperative Intra-Aortic Balloon Pump(IABP), also helps the patient to reach vital values by reducing the after load and providing mechanical support to the heart.

ID: **157**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# SUTURING RIGHT PLEURA (SURGICAL INTEGRITY) AFFECTS EARLY RESPIRATORY FUNCTIONS IN BILATERAL INTERNAL MAMMARY ARTERY USED CABG OPERATIONS

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Bilateral internal mammary artery (BIMA) grafting strategy is widely used as a choice of multi vessel coronary artery disease . The preservation of pleural integrity during coronary artery bypass grafting (CABG) operations improve pulmonary function and post-operative clinical outcomes. (D2-5) while it extends operation time during harvesting bilateral IMA as preserved pleura , the use of BIMA is not optimal all over the world. We designed this retrospective study to evaluate early postoperative pulmonary functions as a suturing of right pleura (surgical pleural integrity ) versus opened pleura in patients who receive bilateral internal mammary artery grafts.

84 selected patients undergoing elective on-pump CABG between March 2014 and June 2022 were included in the present study. The patients were divided into Either 2 groups: those who underwent BIMA harvesting with bilateral opened pleura (OP)(n=44) or with one side pleural integrity by suturing the right pleura (SP) ( n=40). Preoperative patient characteristics were similar. Postoperative respiratory functions were compared between two groups by chest x-ray, arterial blood gas analyses and respiratory function tests.

The mean age of patients was 57,8+-6,3. The incidence of atelectasis and pleural effusion were significant higher in the OP group($p<0.01$). Respiratory functions and arterial blood gas analysis were both better in SP group. Moreover the duration of hospital stay were markedly higher in OP group than in the CP group.

We demonstrate that Suturing the right pleura by making surgical pleural integrity in BIMA used bilateral opened pleura patients has beneficial effects on early respiratory functions . During the harvesting BIMA , opened bilateral pleura make surgeon comfortable area as shortening operation time as well.

ID: **141**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# LONG TERM FOLLOW UP OF RADIAL ARTERY IN CORONARY ARTERY SURGERY

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Long Term Follow Up Of Radial Artery In Coronary Artery Bypass Graft Surgery

Abstract:

Background:

How can we improve coronary artery surgery to help our patients enjoy a good quality of life. The aim of this study is to asses quality of life after coronary artery surgery.

Material and method:
Total of 272 patients who got coronary artery surgery with internal mammary artery, radial artery and saphenous vein graft from 2012 to 2021. We got telephonic contact with 244 (89.7%) patients or their attendants and we were unable to contact 28 (10.2%) patients. 20 (8.9%) of 244 patients died after hospital discharge. The average duration of study was 54 months and mean age of studied population was around 55 years. We inquired about their quality of life according to QOL-5 ( WHO questionnaire) which included mobility, selfcare, usual activities, pain/discomfort and anxiety. Surgical approach included primary median sternotomy, coronary grafting with internal mammary artery, radial artery and saphenous vein graft. Of 244 patients, 221 (81.25%) underwent off pump coronary artery surgery (OPCAB) , 42 (15.44%) on pump coronary artery surgery (ONCAB) and 9 (3.3%) underwent in-time conversion ONCAB as they did not tolerate OPCAB surgery maneuvers.

Results:
In this retrospective follow up study, 12 (5.3%) patients out 224 alive patients got readmission due to chest pain, 7 (58.3%) of 12 patients got repeat angiography and 1 (14%) of these 7 patients got angioplasty, 2 (16.6%) of 12 patients did not underwent angiography and 1 (8.3%) of 12 patients got pacemaker. Almost 5 years survival is 92 percent of 244 followed patients and 95 percent of 224 patients were enjoying a good quality of life according to QOL-5 (WHO questionnaire)

Conclusion:

Our study demonstrated majority of patients who underwent coronary artery grafting with radial artery along with internal mammary artery were enjoying good quality of life according to QOL-5 ( WHO questionnaire).

ID: **14**

Presentation Type: **Oral**

# THE EFFECT OF CONVERSIONS TO CARDIOPULMONARY BYPASS DURING OFF-PUMP CORONARY BYPASS

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Coronary artery bypass grafting on a beating heart is one of the effective methods of surgical myocardial revascularization in patients with coronary artery disease. These operations have a number of advantages compared to operations performed under cardiopulmonary bypass (CPB), especially in high-risk patients. However, in some cases there is a need to switch to CPB.

Purpose of the study. To analyze the results of myocardial revascularization on a beating heart in cases that ended with the transition to CPB.

Material and methods. The study included 615 patients operated on at the Department of Cardiac Surgery of the Republican research Centre of Emergency Medicine (RRCEM) from 2017 to 2021 (mean age 57.7±9.0 years, 96% of patients male). Angina III-IV functional class (FC) was detected in 14 (2.3%) cases, progressive angina in 567 (92.2%) patients, in the remaining 34 (5.5%) cases, patients were operated on against the background of acute coronary artery disease. syndrome. A history of myocardial infarction was observed in 46.3% of patients. A decrease in the left ventricular ejection fraction occurred in 28.4% of patients. Stenosis of the trunk of the left coronary artery was detected in 28.8% of cases.

Results. Of these, in 34 (5.5%) cases there was a need for conversion to CPB. Reasons for switching to cardiopulmonary bypass: arrhythmias resistant to drug and electrical impulse therapy (6 patients (0.9%)), hypotension resistant to drug therapy (9 (1.4%)), ascending aortic dissection (2 (0. 3%)), hypothermia (2(0.3%)), anaphylactic shock (1(0.16%)), anatomical features of target vessels-14(2.3%). Dynamics of the conversion rate for cardiopulmonary bypass: 2017–5%, 2018–7.5%, 2019–3.5%, 2020–3.8%, 2021–3.6%. The average stay in the intensive care unit was 66.5±5 hours in the conversion group and 31.4±4 hours among patients operated on a beating heart. Mortality in cases of conversion was 8.8% (3 cases), and in patients without conversion - 0.7% (4 cases).

Findings. The transition to cardiopulmonary bypass (conversion) during coronary bypass surgery on a beating heart increases mortality and the length of the hospital period. Conversion to CPB is an unpredictable event, and with increasing experience of the operating surgeon and improvement in myocardial stabilization devices, the incidence of conversion to cardiopulmonary bypass decreases.

ID: **44**

**Cardiovascular Surgery > Peripheral artery disease and treatment**

Presentation Type: **Oral**

# Catastrophic Complication After Transradial Coronary Angiography: Limb Loss

**Özgür ALTINBAŞ**[1], Mehmet IŞIK[2]

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Abstract

Objective: Radial artery is one of the intervention cites for coronary angiography and has an increased tendency according to the successful results in the literature. However, some undesirable clinical situations may occur by using this route as with every invasive intervention. In this study it is aimed to present a patient whose arm was amputated after coronary angiography despite multiple limb-saving interventions.

Methods: A 64 year-old male patient was underwent coronary angiography due to chest pain. He had left upper limb ischemia following transradial angiography.
Results: An intimal flap with an approximate length of 15 cm was removed during embolectomy from the brachial artery. Limb loss occurred after axillo-brachial bypass by using saphenous vein following multiple embolectomy procedures.

Conclusions: As a result, the radial and femoral access locations are alternatives for each other in coronary angiography. The radial artery has some disadvantages due to reasons such as thin diameter and tendency to spasm so the repair of the complications occurring due to the same causes may not be pleasant. Complication occurrence due to transradial access would be decreased when performed by professionals with an adequate experience of radial access on suitable patients.

Fig 1: Nearly 15 cm flap removed during embolectomy

**Oral Presentation Session**

**Cardiovascular Disease Risk. Inflammation and beyond**

**Date: 02.12.2022 Time: 17:00-18:00 Hall: 4**

ID: **327**

Topic: **Cardiology > Hypertension and antihypertensive therapy**

Presentation Type: **Oral**

# DETERMINATION OF THE RELATIONSHIP BETWEEN SYSTEMIC INFLAMATUARY RESPONSE INDEX AND RESISTANT HYPERTENSION

**Aslı VURAL**

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OBJECTIVE: Resistant hypertension is defined as the failure to achieve blood pressure control with appropriate lifestyle measures and optimal or best tolerated doses of three of more drugs, typically containing a diüretic. There are studies showing that the immune system has a role in the pathophysiology of hypertension through different mechanisms. The systemic inflamatuary response index is a newly developed biomaker associated with inflammation. In this study we aimed to determine the relationship between systemic inflamatuary response index and resistant hypertension.

METHODS: Three groups of patients were randomized into our study: normotensive, control group (n: 35), controlled hypertension (n: 37) and resistant hypertension (n: 36). Investigations related to secondary hypertension were performed in the resistant hypertension group. Demographic characteristics, complete blood values and biochemical parameters of patients were examined. The systemic inflamatuary response index is calculated with the formula 'neutrophil count x monocytes count / lymphocyt count'.
RESULTS: There was no significantly different in mean age and biochemical findings. Neutrophil (3,86±0,89; 3,86±0,89 and 4,56±1,48 respectively, p= 0,006) and monocytes (0,39±0,11; 0,42±0,10 and 0,50±0,15 respectively, p= 0,001) counts were significantly higher in resistant hypertension group, basophil (0,032±0,018; 0,042±0,016 and 0,033±0,015 respectively, p=0,024) and eosinophil (0,18±0,10; 0,34±0,29 and 0,20±0,17 respectively, p=0,003) counts were significantly higher in controlled hypertension group. Mean systemic inflamatuary response index level was significantly higher in resistant hypertension group ( 9,4±2,1) than normotensive (6,66±2,4) and controlled hypertension (9,4±2,1) group. (p=0,01)

CONCLUSION: In our study, we found that systemic inflamatuary response index was significantly elevated in in patients with resistant hypertension than controlled hypertension and normotensive groups. If the relationship
between resistant hypertension and inflammation is shown in larger studies, research involving anti-inflammatory treatment options may be considered in resistant hypertension treatment.

ID: **309**

Topic: **Cardiology > Chronic heart failure**

Presentation Type: **Oral**

# THE ROLE OF INFLAMMATION IN HEART FAILURE

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The link between heart failure (HF) and inflammation was first described in 1990 by Levine et al. who reported elevated levels of TNF (tumor necrosis factor) in patients with reduced ejection fraction (HFREF). In the following years there was an exponential increase in the number of cytokines and chemokines identified in both HF with depressed ejection fraction, acute decompensated HF and HF with preserved contractility. Inflammation is extremely prevalent in heart failure: 57% of patients included in the RELAX (Phosphodiesterase-5 Inhibition to Improve Clinical Status and Exercise Capacity in Diastolic Heart Failure with Preserved Ejection Fraction) study had elevated C-reactive protein (CRP). Patients with stable chronic HF with reduced or preserved EF from the TIME-CHF trial (Trial of Intensified vs Standard Medical Therapy in Elderly Patients With Congestive Heart Failure) had high-sensitivity CRP (hsCRP) of 6.6 mg/l versus 8.5 mg/l. The activation of systemic inflammation is even more evident in acute HF, where elevated median concentrations of hsCRP (12.6 mg/l) were observed in the ASCEND-HF trial (Acute Study of Clinical Effectiveness of Nesiritide in Decompensated Heart Failure). Although inflammation contributes to the pathogenesis and progression of the entire spectrum of HF, in HF with preserved ejection fraction (HFPEF) there may be a stronger association with markers of inflammation. This was demonstrated in 2 recent analyzes of biomarker profiles from the COACH (Counseling in Heart Failure) and BIOSTAT-CHF (Biology Study to Tailored Treatment in Chronic Heart Failure) trials, which found a stronger correlation between inflammation biomarkers and HFPEF over time that HFREF was more associated with myocardial stretch biomarkers. This may be partly explained by the presence of several comorbidities in patients with HFPEF, such as diabetes, hypertension, chronic obstructive pulmonary disease, obesity, and chronic kidney disease. The relationship between inflammation and heart failure is complex, bidirectional, and only partially deciphered.

ID: **302**

Topic: **Cardiology > Cardiac imaging - Cardiac CT**

Presentation Type: **Oral**

# RELATIONSHIP BETWEEN CAD RADS SCORE SEVERITY AND SYSTEMIC IMMUNE-INFLAMMATION INDEX

**Ahmet Lütfü SERTDEMİR**

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Objective: The Coronary Artery Disease Reporting and Data System score (CAD-RADS) has incremental prognostic value compared with coronary artery calcium score in predicting future major adverse cardiovascular events in patients presenting to the emergency department with chest pain. The aim of this study is to evaluate the relationship between the systemic immune-inflammation index (SII) (Neutrophil × Platelet/Lymphocyte) and CAD RADS score severity.

Methods: A total of 120 patients with chest pain who underwent coronary computed tomography angiography were enrolled in the study. Patients were classified according to the CAD-RADS: 0 (n:29), No plaque; 1 (n:21), 1-24% stenosis; 2 (n:22), 25-49%; 3 (n:24), 50-99%; 4 (n:24). The systemic immune-inflammation index were calculated from venous blood samples.
Results: It was determined that as the severity in the CAD RADS score increased, SII increased statistically significantly (SII values according to groups, respectively; 319 ± 199, 373 ± 230, 484 ± 205, 653 ± 407 and 1448 ± 1100; p < 0,001) (Table 1). As a result of multivariate regression analysis, SII (B±S.E.=0.002±0.000, p<0.001) and triglycerides (B±S.E.=0.006±0.002, p<0.001) were independent predictors of CAD-RADS. ROC Curve: SII>534 for CAD-RADS-4 sensitivity 79.2%, specificity 80.2% (AUC: 0.868, p<0.001).

Conclusions: Our data showed that systemic immune-inflammation index is significantly associated with increased CAD RADS score. SII indicates that it can be applied easily and swiftly in clinics to help predicting the coronary artery disease.
Keywords: Atherosclerosis, CAD RADS score, systemic immune-inflammation index.

ID: **312**

Topic: **Cardiology > Chronic stable angina pectoris**

Presentation Type: **Oral**

# INVESTIGATION OF THE RELATIONSHIP OF KYNURENINE PATHWAY METABOLITES IN SERUM AND PERICARDIAL FLUIDS WITH SEVERITY OF ATHEROSCLEROSIS IN ATHEROSCLEROTIC HEART DISEASES.

**Hakan ÇOMAKLI**[1], Ali ÜNLÜ[2], Sedat ABUŞOĞLU[2], Duygu ERYAVUZ ONMAZ[2], Murat YİĞİTBAŞI[1], Mert DEMİRSÖZ[3]

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Atherosclerotic heart disease, particularly acute myocardial infarction (MI), is one of the leading causes of death worldwide. Studies show that Tryptophan(Trp) Kynurenine (KYN) pathway catabolites play a role in the etiology and course of atherosclerotic heart diseases. Increased degradation of Trp and increased plasma Kyn / Trp ratio (KTR) have been attributed to inflammation.

A systemic chronic low-grade immune mediated inflammation (scLGI) caused by proinflammatory cytokines is largely involved in atherosclerosis and other consequences. The increased catabolism of TRP also plays a role in the pathogenesis of scLGI anemia. Pro-inflammatory cytokines suppress the growth and differentiation of erythroid progenitor cells and TRP depletion limits protein synthesis and hence hemoglobin production, resulting in clinical symptoms in ischemic vascular diseases through decreased oxygen supply.

The clinical importance of TRP's catabolites towards the KYN pathway was first shown to be involved in the etiology and course of psychiatric disorders. During stress, proinflammatory cytokines activate the KYN pathway and the TRP is deprived of the serotonin pathway, thus reducing serotonin synthesis. The dynamics of this process are best characterized by the KYN / TRP ratio. TRP plasma levels have also been shown to be a determinant of the response to selective serotonin reuptake inhibitors (SSRIs) in patients with major depression.

In our study, our aim was to examine the relationship between the extent of coronary artery disease(CAD) and atherosclerosis severity, determined by Syntax score I - II, and TRP and kynurenine pathway metabolites in plasma/pericardial fluid in patients who underwent elective coronary angiography for stable angina pectoris.It was investigated whether TRP and kynurenine pathway metabolites are a biochemical marker to show the prevalence of ASKD.

Descriptive statistics of 101 individuals participating in the study were examined. Accordingly, the mean age was 60.03±9.63 years, the mean height was 1.69±0.08 cm, the mean weight was 80.55±11.89 kg, and the mean BMI was 28.29±3.58 kg/m2.

16.8% of the participants were female and 83.2% were male. While 71.3% were normal weight, 28.7% were obese. 11.9% had COPD, 63.4% had smoking and 10.9% had alcohol use.

Peripheral Artery Disease in 22.8%, Cerebro Vascular Event in 12.9%, Kidney Failure in 13.9%, Psychiatric Drug Use in 8.9%, Thyroid dysfunction in 13.9%, 52% .5 had DM and 23.8% had no DM-prediabetes.While 51.5% of the participants were not using Antidiabetic Drugs, 31.7% were using oral antidiabetic drug(OAD), 8.9% were using insulin and 7.9% were using both antidiabetic drugs.

Syntax groups have a homogeneous distribution according to all demographic characteristics ($p>0.05$).In other words, Age, Height, Weight, BMI, Gender, BMI Categories, COPD, Smoking, Peripheral Artery Disease, Cerebro Vascular Event, Kidney Failure, DM, no DM-prediabetes, ECO EF and Carotid artery stenosis features had a similar structure in Syntax groups.

The values obtained for TRP, 3OH-Kynurenine(3OH-KNY), 3OH-Antranillic acid(3OH-ANT) and KYN/TRP ratio were statistically significantly higher in the measurements made for the serum than the measurements made for the Pericardium ($p<0.05$). KYN and KA parameters were not different in Serum and Pericardium measurements ($p>0.05$).

While the TRP parameter was not different in the Syntax groups, the mean of TRP measurements obtained in the three Syndax-I groups (low-medium-high) differed in Serum and Pericardium measurements.
In all three Syndax groups, the mean of TRP measurement obtained in Serum measurement was higher than the average obtained in Pericardial measurement ($p<0.05$).

There was a statistically significant positive correlation between Serum KYN and Serum CA, Serum 3OHKYN, Serum 3OHANT, Pericardial KYN, Pericardial KA and Pericardial 3OH-ANT parameters, moderately positive between Pericardial 3OHKYN parameters, and moderately negative correlation between Serum KYN/TRP ( p<0.05).

There was a statistically significant positive correlation between Serum KYN and Serum CA, Serum 3OH-KYN, Serum 3OH-

ANT, Pericardial KYN, Pericardial KA and Pericardial 3OHANT parameters, moderately positive between Pericardial 3OHKYN parameters, and moderately negative correlation between Serum KYN/TRP ( p<0.05).

| | Syntax Grup | ICC | %95 Confidence Interval | | p |
|---|---|---|---|---|---|
| | | | Lower limit | Upper limit | |
| TRP | Low | 0,603 | 0,312 | 0,771 | **0,001 *** |
| | Medium | 0,636 | 0,056 | 0,860 | **0,019 *** |
| | High | 0,742 | 0,451 | 0,879 | **0,001 *** |
| | Genaral | 0,661 | 0,497 | 0,771 | **0,001 *** |
| KYN | Low | 0,674 | 0,435 | 0,812 | **0,001 *** |
| | Medium | 0,914 | 0,778 | 0,967 | **0,001 *** |
| | High | 0,803 | 0,581 | 0,908 | **0,001 *** |
| | Genaral | 0,794 | 0,694 | 0,861 | **0,001 *** |
| KA | Low | 0,771 | 0,604 | 0,868 | **0,001 *** |
| | Medium | 0,643 | 0,073 | 0,862 | **0,017 *** |
| | High | 0,775 | 0,522 | 0,895 | **0,001 *** |
| | Genaral | 0,706 | 0,565 | 0,802 | **0,001 *** |
| 3OHKYN | Low | 0,324 | -0,172 | 0,610 | 0,081 |
| | Medium | 0,577 | -0,098 | 0,837 | **0,038 *** |
| | High | 0,371 | -0,340 | 0,705 | 0,113 |
| | Genaral | 0,529 | 0,302 | 0,683 | **0,001 *** |
| 3OHANT | Low | 0,711 | 0,500 | 0,833 | **0,001 *** |
| | Medium | 0,740 | 0,325 | 0,900 | **0,003 *** |
| | Genaral | 0,659 | 0,273 | 0,840 | **0,003 *** |
| | Genel | 0,720 | 0,585 | 0,811 | **0,001 *** |
| KYN/TRP | Low | 0,697 | 0,476 | 0,825 | **0,001 *** |
| | Medium | 0,549 | -0,170 | 0,826 | **0,049 *** |
| | Genaral | 0,707 | 0,376 | 0,862 | **0,001 *** |
| | Genel | 0,662 | 0,499 | 0,772 | **0,001 *** |

*p<0,05; [1]: In-Class Correlation Coefficient (ICC)

Table-1 When Table-1 was examined, the agreement between Syndax Groups and Serum-Pericardium Measurements for All Results was statistically significant in all parameters except the 3OHKYN parameter (p<0.05).

As local stress factors, the values of Tryptophan and Tryptophan Metabolites (Kinurea, Kinurenic Acid, 3-Hydroxykynurenine and Anthranilic Acid), which are biochemical stress parameters, in systemic venous blood and local pericardial fluid associated with the heart were compared. The association of kynirenine pathway downstream metabolites with the severity of atherosclerosis was determined. The study is a case-control study.

ID: **304**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# DO NEUTROPHIL LYMPHOCYTE RATIO AND PLATELET LYMPHOCYTE RATIO PREDICT CORONARY ARTERY DISEASE?

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OBJECTIVE

Atherosclerosis is a known pathology in which chronic systemic inflammation plays a role from its onset to advanced stages. Various biomarkers are used to determine the inflammatory process. Identification of risk factors in coronary artery disease has an important place in predicting prognosis as well as prevention of acute coronary syndromes. In our study, the aim was to examine the relationship between C reactive protein (CRP), neutrophil, lymphocyte, monocyte and platelet counts, MPV and PCT values and neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio (PLR), lymphocyte/monocyte ratio (LMR) of the patients who were decided to undergo medical treatment, percutaneous intervention(PCI) and coronary artery bypass grafting surgery(CABG) as a result of coronary angiography.

METHODS

132 patients were included in the study. Patients with additional peripheral vascular disease other than coronary artery disease were excluded. The mean age was 56,98±7,89 years, 29,5% (n=39) of the patients were female. They were divided into 3 groups as medical, PCI and CABG decision after coronary angiography. The medical treatment group was 33,3% (n=44), the PCI decision was 30,3% (n= 40), and the rate of CABG was 36,4% (n=48). Complete blood count and CRP measures of all patients were examined before the procedure.

RESULTS

There was a statistically significant difference between the three groups in terms of age variable ($p<0.05$). The mean age was 55±8 years in the medical treatment group, 57±6 years in the percutaneous treatment group and 59±8 years in the CABG group. There was no statistically significant difference between the groups in the levels of neutrophil, lymphocyte, monocyte, platelet counts, MPV and PCT values, PLR and LMR ($p>0.05$). There was a statistically significant difference between the groups in terms of the CRP and NLR ($p<0.05$). The median value of CRP level was 1,26(0,1-23,69) in the medical treatment group, 3,6(0.47-62,4) in the PCI group, and 4,8(0,27-78,2) in the CABG group. Median value for NLR level was 1,89(0,25-6,16) in the medical treatment group, 2,24 (0,17-14,11) in the PCI group, and 2,6(0,95-5,87) in the CABG group.

CONCLUSIONS

In our study, we determined that NLR and CRP levels were higher in the CABG and PCI groups. NLR, CRP and other markers of inflammation are useful and inexpensive markers that can predict coronary artery disease and its severity. Acute infections, emergency cases and other chronic inflammatory events other than atherosclerosis may affect the outcome.

ID: **290**

Topic: **Cardiology > Chronic heart failure**

Presentation Type: **Oral**

# LEFT VENTRICULAR GLOBAL FUNCTION INDEX AS A PREDICTOR OF IN-HOSPITAL MORTALITY IN PATIENTS WITH CHRONIC HEART FAILURE WITH REDUCED EJECTION FRACTION

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OBJECTIVE: The left ventricular (LV) global function index (LVGFI) is a new index that evaluates cardiac performance by integrating cavity volumes, stroke volume, and myocardial volume. Recent studies have reported that LVGFI predicts heart failure (HF) and cardiovascular events better than LV ejection fraction. The aim of this study was to investigate the prognostic significance of the LVGFI for in-hospital mortality in patients with chronic HF with reduced ejection fraction using echocardiography.7

METHODS: This cross-sectional study was conducted between December 2017 and December 2019. A total of 100 patients with chronic heart failure with reduced ejection fraction were included in the study. On echocardiography, LVGFI was calculated with the formula: (LV stroke volume / (LV cavity volume+ LV myocardial volume)) × 100. The mean LV cavity volume was calculated as: (LV end-diastolic volume + LV end-systolic volume)/2.

RESULTS: In-hospital mortality rate was 11% in patients with chronic HF with reduced ejection fraction. The mean LVGFI level was lower in patients who died (23.5±8.7 vs 19.3±6.5 %; p<0.001). Increased glucose level and decreased LVGFI level were determined as independent predictors of in-hospital mortality. According to this; it was determined that 1% decrease in LVGFI level increased the risk of in-hospital mortality 1.05 folds (HR=0.95, 95% CI =0.92-0.98; p<0.001). The threshold value of LVGFI for predicting in-hospital mortality was <21.6%, with a sensitivity of 81.8% and a specificity of 62.1%.

CONCLUSIONS: In patients with chronic HF with reduced ejection fraction, the LVGFI is an independent predictor for in-hospital mortality. LVGFI can be a potential screening tool for risk stratification.

Keywords: ejection fraction, heart failure, left ventricle, global function index

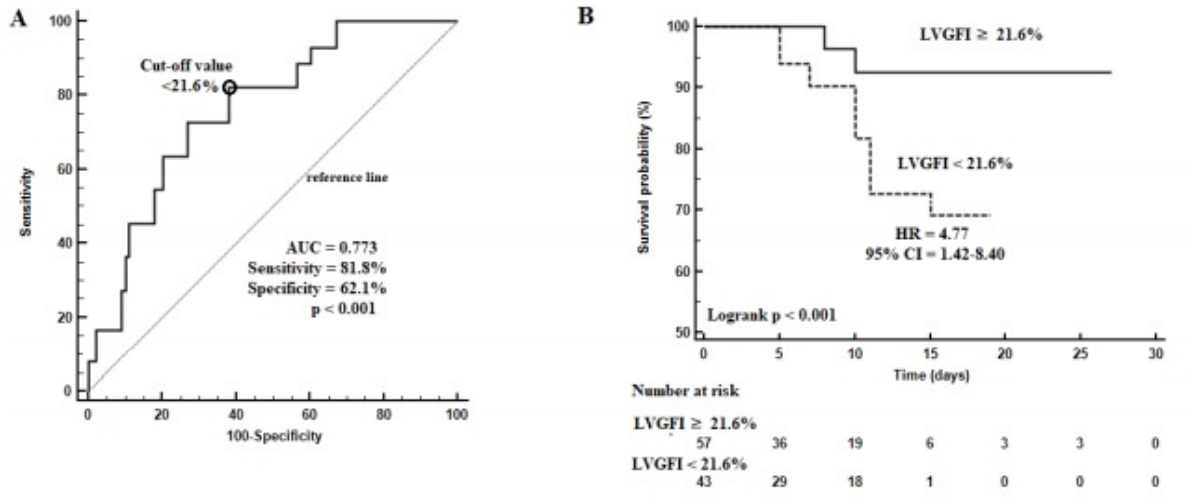
Table 1. Factors associated with in-hospital mortality in patients with chronic heart failure with reduced ejection fraction

| Variables | Alive n=89 | Exitus n=11 | HR | 95% CI | p |
|---|---|---|---|---|---|
| Age, years | 68.2±11.3 | 68.7±15.4 | 1.01 | 0.97-1.05 | 0.915 |
| Male gender, n(%) | 65(73.0) | 7(63.6) | 0.65 | 0.22-2.10 | 0.308 |
| Hypertension, n(%) | 33(37.1) | 5(45.5) | 1.41 | 0.43-4.64 | 0.567 |
| Diabetes Mellitus, n(%) | 32(36.0) | 5(45.5) | 1.50 | 0.46-4.90 | 0.506 |
| Glucose, mg/dL | 108(75-243) | 136(85-455) | 1.27 | 1.07-1.50 | 0.002* |
| WBC, $x10^3$ | 7.9(2.4-15.1) | 5.2(3.6-22.5) | 0.97 | 0.76-1.24 | 0.814 |
| Platelets, $x10^3$ | 247.8±76.2 | 229±82.4 | 0.99 | 0.98-1.01 | 0.495 |
| hs-CRP, mg/dL | 0.6(0-9.8) | 2.3(0-13.6) | 1.14 | 1.05-1.23 | 0.014* |
| eGFR, mL/min | 70.3±21.5 | 68.4±20.3 | 0.99 | 0.97-1.02 | 0.723 |
| SV, mL | 65.8±18.4 | 63.7±25.8 | 0.99 | 0.94-1.04 | 0.790 |
| LVEDD, cm | 5.0±1.2 | 5.1±1.0 | 1.01 | 0.91-1.11 | 0.950 |
| LVPW, cm | 11.4±0.4 | 12.1±0.3 | 1.03 | 0.97-1.09 | 0.760 |
| IVST, cm | 11.0±0.5 | 11.3±0.6 | 1.02 | 0.98-1.07 | 0.649 |
| LVMI, $g/m^2$ | 107.1±31.6 | 116.4±30.3 | 1.10 | 0.92-1.23 | 0.0348 |
| LVEDV, mL | 106.2±45.3 | 122.4±50.7 | 1.12 | 1.04-1.20 | 0.035* |
| LVESV, mL | 48.5±18.6 | 59.4±22.6 | 1.08 | 0.98-1.19 | 0.147 |
| LVEF, % | 30.5±7.1 | 27.6±5.1 | 0.95 | 0.91-0.99 | 0.021* |
| LVGFI, % | 23.5±8.7 | 19.3±6.5 | 0.94 | 0.91-0.97 | <0.001* |

Categorical variables were expressed as numbers (%). Numerical variables were expressed as mean ± standard deviation or median (min-max).* p <0.05 shows statistical significance.

Abbreviations: CI, confidence intervals; GFR, glomerular filtration rate; hs-CRP, high sensitive C-reactive protein; HR, hazard ratio; LVESD, left ventricular end-diastolic dimension; LVPW, left ventricular posterior wall thickness; IVST, interventricular septal thickness; LVMI, left ventricular mass index; LVEDV, left ventricular end-diastolic volume; LVESV, left ventricular end-systolic volume; LVEF, left ventricular ejection fraction; LVGFI, left ventricular global function index, SV, stroke volume; WBC, white blood cell.

Figure 1. Predictive value (A) and risk levels (B) of LVGFI in assessing in-hospital mortality risk



**Oral Presentation Session**

**Challenges in Diagnosis and Management of Congenital Heart Diseases**

**Date: 03.12.2022 Time: 08:00-09:00 Hall: 5**

ID: **242**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# RARE CASE OF COEXISTENCE OF ECTOPIA CORDIS AND CRISS-CROSS HEART NEWBORN

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Introduction:

Ectopia cordis is a rare congenital anomaly in which the heart is partially or completely outside the thorax. It occurs in one in 5.5-7.9/million live births. The most common congenital heart disorders accompanying ectopia cordis are VSD, ASD, pulmonary stenosis, right ventricular diverticulum, double outlet right ventricle and tetralogy of Fallot. A criss-cross heart accounting for less than 1% of congenital heart defects was first described in 1961 by Lev and Rowlatt. It was learned that the baby was suspected to have double outlet right ventricle (DORV) in the fetal echocardiography performed at the 18th gestational week in our center, but the mother did not come for follow-up until delivery. In her postnatal evaluation, thoracoabdominal ectopia cordis and criss cross heart were detected.The association of criss cross heart and ectopia cordis is presented because it is a rare condition.

Case:

The cardiac apex of a male baby born with a weight of 2100 g at the 34th gestational week by cesarean section from the third pregnancy of a 20-year-old mother was outside the thoracic cavity (Figure1). Due to respiratory distress after delivery, she was taken to nCPAP and hospitalized in the neonatal intensive care unit. From her history, it was learned that the baby was suspected of double outlet right ventricle (DORV) in the fetal echocardiography performed in our hospital at the 18th gestational week and she did not come for follow-up again. In the physical examination of the baby, it was observed that the heart apex was pulsative under the xiphoid region. In echocardiography examination; mesocardia, criss-cross localized ventricular morphology, wide secundum ASD, large inlet VSD, and large PDA were detected (Figure 2). Because the patient had a large VSD, upper partial sternotomy and pulmonary artery banding and PDA ligation were performed on the postnatal 22nd day after PVR decreased. The patient, whose postoperative findings were stable, was discharged one week later.

Discussion:

Ectopia cordis is a fusion defect of the anterior chest wall that causes extra-thoracic placement of the heart. According to the location of the heart, it can be divided into five types as cervical (5%), cervicothoracic and thoracic (65%), thoracoabdominal (20%) and abdominal (10%). The severity of accompanying cardiac anomalies and the location of the heart usually determine long-term survival. Criss-cross heart In the etiology of the disease, the ventricles twist around their long axis without concomitant movement of the atria, thus producing crossing of systemic and pulmonary venous blood streams each other at the atrioventricular level without mixing, giving the appearance of each atrium emptying into the contralateral ventricle. In the fetal period, criss-cross heart can be confused with DORV. Therefore, fetal period follow-up is important. It was presented because of the rare association of ectopia cordis and criss-cross heart after birth.

Keywords: Ectopia cordis;criss-cross heart; congenital; newborn.

ID: **236**

Topic: **Cardiology > Covid-19 and cardiology**

Presentation Type: **Oral**

# COMPARISON OF FIRST AND SECOND WAVE COHORTS OF MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN TURKEY, OCTOBER 2020-APRIL 2022

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Multisystem inflammatory syndrome(MISC) in children is a newly identified serious hyperinflammatory disease associated with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). After periods of surge in the circulation of the SARS-CoV-2 virus, surge also appeared in the number of MISC patients. There are few studies in the literature comparing the clinical features and outcomes of patients diagnosed with MISC in different waves. In our study, we compared the clinical features and 3- and 6-month follow-up results of MISC patients by dividing them into two different time periods.

This study was conducted retrospectively in children with MISC who were hospitalized in Pamukkale University Medical Faculty Hospital Pediatric Cardiology Service between October 2020 and April 2022. The clinical characteristics of the patients were recorded. During the outpatient follow-up, the patients were evaluated by echocardiography at the third and sixth months. MISC patients were evaluated in two time periods; the first wave was defined as October 2020-June 2021 and the second wave as August 2021-February 2022.

A total of 102 patients, 70 diagnosed in the first wave and 32 diagnosed in the second wave, were included in the study. The mean age of the patients was 8.11±4.5(1-17), and the male/female ratio was 58/44. Pulmonary involvement was more common in the first group(p=0.043). In the second group, IL-6(p=0.033), erythrocyte sedimentation rate(p=0.001), alanine transaminase(p=0.048), lactic dehydrogenase(0.009), lipase(0.05) and D-Dimer (p=0.027) was found higher. In addition, eleveted of erythrocyte sedimentation rate(p=0.000), eleveted of lactic dehydrogenase(p=0.038), eleveted of alanine transaminase(p=0.008) and thrombocytopenia(p=0.011) were more frequent. In echocardiographic evaluation, mitral valve insufficiency and coronary artery involvement were more frequent in the first group; left ventricular dysfunction and pericardial effusion were more frequent in the second group. Of these, only the difference in pericardial effusion frequency was significant(p=0.024). There was no difference between the groups in terms of length of hospital stay, need for intensive care and treatments applied. At the 6th month evaluation, it was observed that coronary aneurysm persisted in one patient each in the first and second groups.

When we evaluated the clinical, laboratory and follow-up results of our MISC patients in two separate time periods; Although there was an increase in laboratory parameters in the second group, we found that the clinical findings and treatments were similar in both groups. In addition, the patients had similar echocardiographic findings at the third and sixth month follow-ups. Follow-up of MISC patients is important in terms of defining their cardiac effects.

ID: **225**

Topic: **Cardiology > PI for SHD-ASD,VSD,PDA closure**

Presentation Type: **Oral**

# VENTRICULAR SEPTAL DEFECTS CLOSED WITH LIFETECH KONAR DEVICE; OUR SHORT AND MID-TERM RESULTS

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Background: Ventricular septal defects (VSD) are one of the most common congenital heart defect. Newly developed devices allow transcatheter closure of large VSD. This study aimed to share short and mid-term findings in patients with VSD whose defects were closed with transcatheter method and Konar-Multifunctional Occluder (MFO).

Methods: Between November 2018 and July 2022, a total of 55 patients, 21 of whom were less than 24 months old, underwent VSD closure with MFO device. The median age of the patients was 5.1 years (3 months-16,9 years). 50 patients had perimembranous, 3 patients had mid-muscular, 2 patients had apical-musculer VSD. Aneurysm was accompanying in 16 of those with perimembranous VSD. In a patient with apical muscular multiple VSD, closure was performed twice at different times. Mean QP / Qs: 1.92 ±SD (1.61-2.18), mean right side orifice diameter of the defect was 4.9 mm ±SD (3-9,3) and mean left side orifice diameter was 6.6 mm ±SD (4-11). 41 of the patients were closed by antegrad route and 14 of them closed by retrograde route. The largest device used was 14x12 mm, and the smallest device was 5x3 mm. Considering all cases, the procedure success rate was calculated as 100%. There was no any complication was observed. A patient whose VSD was closed with ADO-II but embolized previosuly, was succesfully closed with MFO. Our average follow-up time is 743 days ±SD (45-1103). No major complications were observed. Minor complications were as follows: A residual VSD continued in one patient, a hematoma in the femoral region in one patient, and a temporary minor rhythm disorder in 3 patients.

Results: Closure of both congenital and residual VSDs can be effectively performed in patients with transcatheter method using LifeTech MF-Konar devices. Compared to other devices, its more flexible and lightweight structure, antegrad and retrograde bi-directional usage in patients with larger VSD and safety use even in low-weight infant provide significant advantages.

Conclusion: Perimembranous and muscular VSD can be successfully closed by transcatheter method in pediatric patients with Lifetech Konar MFO device. The device's design, flexibility and two-way availability, which ensure high compatibility with septal defects, stand out as important advantages. In addition, its use at an early age and at low weight makes a difference compared to other devices. More patients will support these findings in new studies involving long-term outcomes.

Keywords: Konar, MFO, VSD closure, Transcatheter Intervention, Congenital heart disease

ID: **224**

Topic: **Cardiology > Preventive cardiology**

Presentation Type: **Oral**

# POST-TRAUMATIC DISTRESS IN ADULTS WITH CONGENITAL HEART DISEASE: AN UNDER RECOGNIZED COMPLICATION?

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Background: Due to medical advances in treatment and care of patients with congenital heart defects (CHD), their psychological situation has recently received increasing attention. The extent to which treatment- or disease-related stressors affect mental health and, in particular, the development of post-traumatic stress disorder (PTSD) has not been sufficiently examined yet. The aim of the present study is to determine the prevalence of PTSD in adults with CHD (ACHD) and to identify associated medical and psychosocial risk factors.

Methods: Using validated and standardized questionnaires, 120 ACHD were recruited from November 2021 to May 2022 at tertiary centre specialized for ACHD in this retrospective cross-sectional study. Data were collected on general health, on potential symptoms of PTSD, on anxiety and depression, and on social support. Results were obtained using descriptive analyses, correlations, and regression models.

Results: Overall, 24% (mean age: 35.14 ±10.66 years, 48.3% female) of enrolled patients met criteria for elevated PTSD symptoms specifically related to their CHD or treatment. Associated risk factors included pre-existing mental problems (40.5%), as well as the extent of psychological strain in the context of cardiac disease. The correlation with the CHD severity, the number of interventions or the age of the most recent surgery did not reach statistical significance. Feelings of helplessness and existential anxiety in the context of CHD emerged as risk factors associated with PTSD. Among the protective factors identified are perceived immediate and extended social support during childhood.

Conclusion: Despite profound adverse effects of PTSD on cardiovascular health, PTSD is largely overlooked in the medical management of CHD patients. The increased awareness of PTSD associated with CHD has created a new emergency and thus makes it necessary to reflect upon psychocardiological elements as an integral part of multidisciplinary approach to cardiac care.

ID: **223**

Topic: **Cardiology > Hypertrophic cardiomyopathy**

Presentation Type: **Oral**

# IMPAIRED QUALITY OF LIFE IN PATIENTS WITH FABRY'S DISEASE: A CROSS-SECTIONAL STUDY

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Background: Fabry disease (FD) is a multi-organ disorder associated with severe physiological and psychological impairments, particularly in adulthood. To date, comprehensive data on the psychological burden of FD are lacking. The present study investigated quality of life (QOL) in a representative cohort of adults with FD.

Methods: Patient-reported outcome measures were retrospectively analyzed in a representative sample of 84 adults with FD (48.4 ± 16.1 years of age; 64.3% female) and compared to adults with congenital heart defects (ACHD) which is another lifelong disease and affliction. QOL was assessed using the EQ-5D-5L.

Results: Subjects affected by FD reported an overall reduced QOL (EQ-VAS: 71.8 ± 20.0). Most frequently reported complaints occurred within the dimensions pain/discomfort (67.8%), usual activities (46.4%) and anxiety/depression (44.0%). Differences between both populations were analyzed subsequently. Compared to ACHD, individuals with FD scored significantly lower in the areas of pain/discomfort ($p<.001$), usual activities ($p<.001$) and mobility ($p=.01$).

Conclusion: Patients with FD are at high risk for impaired QOL. They require additional support to cope with disease-related challenges. Increased attention should be directed towards improving their subjective wellbeing to potentially increase their QOL and long-term health outcomes.

ID: **222**

Topic: **Cardiology > Pregnancy and heart diseases**

Presentation Type: **Oral**

# PSYCHOSOCIAL PREGNANCY OUTCOMES IN WOMEN WITH CONGENITAL HEART DISEASE

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Background: Improved treatment options for congenital heart disease (CHD) lead to a growing number of women with CHD at reproductive age. Due to physical and psychological burden, pregnancies in women with CHD often count for high-risk. Resulting emotional distress can adversely impact pregnancy, motherhood and fetal health. The present study aims to retrospectively investigate mental outcomes and indices of adjustment in women with CHD before, during and after pregnancy. The novel concept of illness identity is applied to explain how patients experience and integrate their CHD into their identities.

Methods: Patient-reported outcome measures on mental functioning and illness identity were assessed in a sample of 121 postpartum women with CHD (mean age: 42.7 ± 9.2 [27- 81] years) at the German Heart Centre Munich between August and November 2021 in a cross-sectional design. Descriptive analyses, correlations and linear regression models were calculated.

Results: Retrospectively assessed prevalence of emotional distress before giving birth was high (47.0 %) and peaked shortly after childbirth in terms of elevated symptoms of postpartum depression and trauma. During the course of maternity, emotional distress decreased significantly. (24.1 %, $p < .001$). Overall, postpartum women demonstrated high scores in functional illness identity states (i.e., acceptance and enrichment) and low scores in dysfunctional states (i.e., rejection and engulfment). CHD severity was not directly associated with mental outcomes ($p > .05$), whereas maternal cardiovascular risk, according to the WHO classification, was significantly associated with a higher prevalence of postpartum trauma ($t = 2.485$, $p = .015$).

Conclusion: Postpartum mental health problems, such as (postpartum) depression, anxiety, and posttraumatic stress can become a serious burden which might be detrimental to the mother's well-being and her infant's development. Present findings emphasise the urgent need for a holistic approach focusing on pregnant CHD women starting at the prepartum stage to prevent adverse consequences and promote maternal well-being. Illness identity might become an important target construct for clinical practice as it may positively and enduringly influence mental well-being of pregnant women with CHD.

ID: **66**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Oral**

# RETROSPECTIVE ANALYSIS OF INFANT VSDS OPERATED WITH OR WITHOUT PULMONARY ARTERY BANDING: A SINGLE-CENTER STUDY

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Objectives:Ventricular septal defect (VSD) is a common congenital heart disease in childhood. Therefore, it is important to know appropriate treatment strategies. The approach to low-weight infants requiring surgery varies depending on the experience of the center and the surgeon's preference. Pulmonary artery banding (PAB) is still a preferred method for babies under 5 kg especially in developing countries due to the risks of ventricular septal defect closure surgery. The aim of this study is to compare the peri-operative findings of patients with and without pulmonary arterial banding.

Methods: In the current study, the operated patients were divided into 2 groups. Group 1: Patients who underwent pulmonary arterial banding before ventricular septal defect closure surgery (n=31). Group 2: Patients who underwent primary VSD closure surgery (n=57). The data obtained electronically from the patients' medical history was analyzed.

Results: Although the bypass time and cross clamp time were longer in the PAB group, there was no significant difference between groups in terms of the day of stay in the intensive care unit, the day of hospital stay and intubation time. Additionally, pre-operative left ventricular end-diastolic diameters were statistically significantly lower in the PAB group ($p<0.002$). This result was attributed to increased right ventricular pressure due to pulmonary banding, shifting the septum towards the left ventricle. However, there was no difference between the groups in terms of postoperative left ventricular end-diastolic diameters. Moreover, it was ascertained that as weight decreases, the duration of intubation and length of stay in intensive care increases.

Conclusion: Although prospective studies with a larger number of patients and more echocardiographic parameters are needed, pulmonary artery banding is probably a safe and useful method for low weight infants with VSD in low experience centres.

Table 1: Perioperative characteristics in VSD closure surgery by groups

| | PAB group (n: 31) | | Non-PAB group (n:57) | | p value |
|---|---|---|---|---|---|
| | Mean | SD (±) | Mean | SD (±) | |
| Height (cm) | 77.7 | 7.1 | 69.3 | 7.8 | **0,002*** |
| Weight (kg) | 9.6 | 2.3 | 6.7 | 1.45 | **0,0001*** |
| VSD operation time (month) | 18.6 | 4.4 | 9.6 | 4.89 | **0,0001*** |
| Bypass time (min) | 73.94 | 20.3 | 49.02 | 17.2 | **0,0001*** |
| Cross-clamp time (min) | 57.03 | 17.6 | 33.20 | 13.4 | **0,0001*** |
| ICU stay (day) | 5.42 | 10.4 | 7.96 | 12.2 | 0,308 |
| Hospital stay (day) | 15.2 | 16.1 | 14.6 | 13.5 | 0,862 |
| Duration of intubation (hour) | 50 | 86.4 | 73.2 | 110.8 | 0,286 |

*PAB: Pulmonary arterial banding, VSD: Ventricular septal defect, ICU: Intensive care unit*

**Oral Presentation Session**

**Multifaceted Aspects of Deep Venous Thrombosis, Pulmonary Thromboembolism and Pulmonary Hypertension**

**Date: 03.12.2022 Time: 09:15-10:15 Hall: 5**

ID: **263**

Topic: **Cardiovascular Surgery > Pulmonary arterial hypertension (PAH) Summit**

Presentation Type: **Oral**

# MEDICAL TREATMENT OF PULMONARY HYPERTENSION IN ADULTS WITH CONGENITAL HEART DISEASE: UPDATED AND EXTENDED RESULTS FROM THE INTERNATIONAL COMPERA-CHD REGISTRY

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Background: Pulmonary arterial hypertension (PAH) is common in congenital heart disease (CHD). Because clinical-trial data on PAH associated with CHD (PAH-CHD) remain limited, registry data on the long-term course are essential. This analysis aimed to update information from the COMPERA-CHD registry on management strategies based on real-world data.
Methods: The prospective international pulmonary hypertension registry COMPERA has since 2007 enrolled more than 10,000 patients. COMPERA-CHD is a sub-registry for patients with PAH-CHD.

Results: A total of 769 patients with PAH-CHD from 62 specialized centers in 12 countries were included into COMPERA-CHD from January 2007 through September 2020. At the last follow-up in 09/2020, patients [mean age 45.3±16.8 years; 512 (66%) female] had either post-tricuspid shunts (n=359; 46.7%), pre-tricuspid shunts (n=249; 32.4%), complex CHD (n=132; 17.2%), congenital left heart or aortic valve or aortic disease (n=9; 1.3%), or miscellaneous CHD (n=20; 2.6%). The mean 6-minute walking distance was 369±121 m, and 28.2%, 56.0%, and 3.8% were in WHO functional class I/II, III or IV, respectively (12.0% unknown). Compared with the previously published COMPERA-CHD data, after 21 months of follow-up, the number of included PAH-CHD patients increased by 91 (13.4%). Within this group the number of Eisenmenger patients rose by 39 (16.3%), the number of "Non-Eisenmenger PAH" patients by 45 (26.9%). Currently, among the 674 patients from the PAH-CHD group with at least one follow-up, 450 (66.8%) received endothelin receptor antagonists (ERA), 416 (61.7%) PDE-5 inhibitors, 85 (12.6%) prostacyclin analogues, and 36 (5.3%) the sGC stimulator riociguat. While at first inclusion in the COMPERA-CHD registry, treatment was predominantly monotherapy (69.3%), this has shifted to favoring combination therapy in the current group (53%). For the first time, the nature, frequency, and treatment of significant comorbidities requiring supportive care and medication are described.

Conclusions: Analyzing "real life data" from the international COMPERA-CHD registry, we present a comprehensive overview about current management modalities and treatment concepts in PAH-CHD. There was an trend towards more aggressive treatment strategies and combination therapies. In the future, particular attention must be directed to the "Non-Eisenmenger PAH" group and to patients with complex CHD, including Fontan patients.

ID: **107**

Topic: **Cardiology > Pulmonary arterial hypertension (PAH)**

Presentation Type: **Oral**

# IS IT POSSIBLE TO PREDICT MORTALITY BY USING HEMATOLOGIC PARAMETERS IN AN EMERGENT CONDITION?

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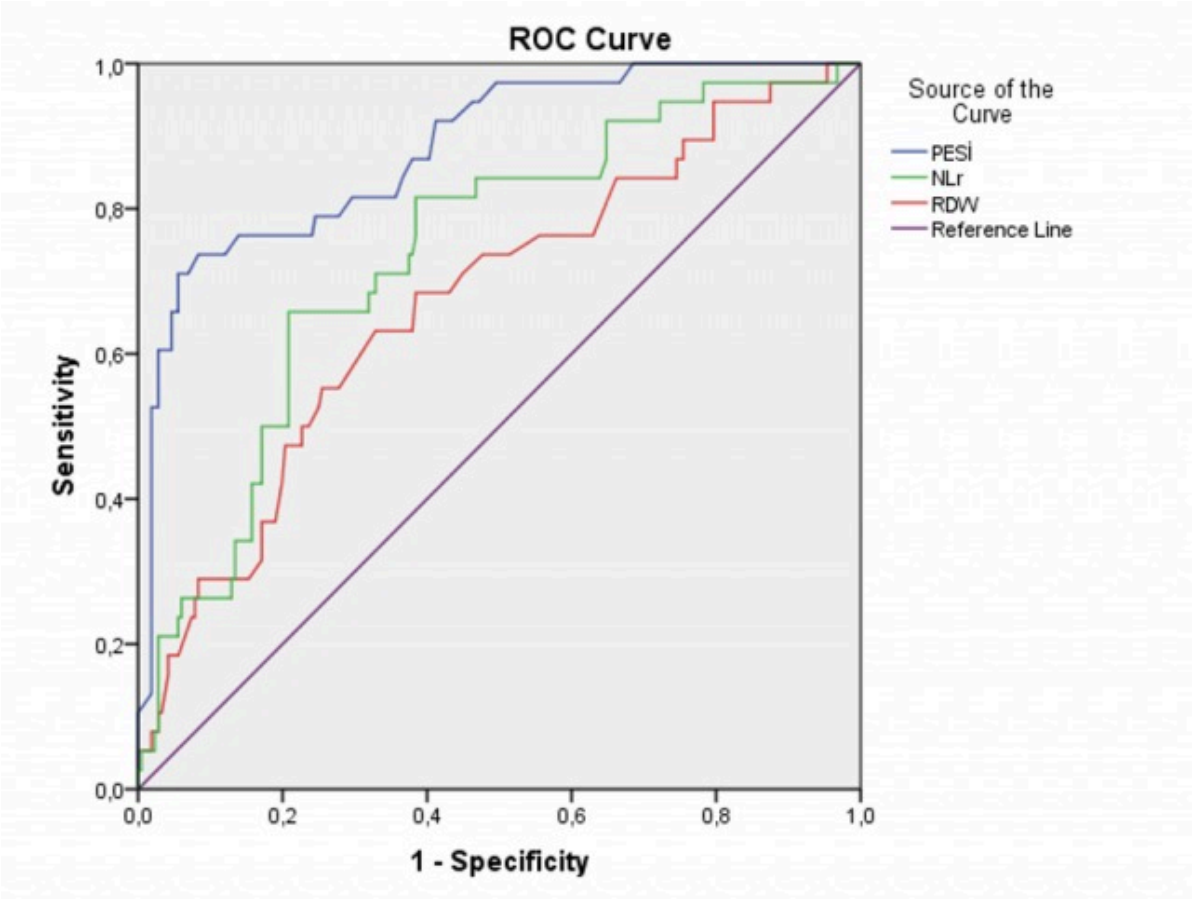
| Variables | All n=254 | Survivor (n=216) | Non-survivor (n=38) | p |
|---|---|---|---|---|
| **Clinical Characteristics** | | | | |
| **Age (years)** | 62.7±15.5 | 61.9±15.1 | 66.5±16.9 | 0.096 |
| **Male, n (%)** | 95 (37.4) | 82 (37.9) | 13 (34.2) | 0.659 |
| **Body mass index (kg/m$^2$)** | 29.4±5.7 | 28.7±4.8 | 29.6±6.1 | 0.574 |
| **Heart Rate>110, beats/min, n (%)** | 252 (99.2) | 214 (99.1) | 38 (100) | 0.551 |
| **Respiratory Rate>30, times/min, n (%)** | 51 (20.1) | 25 (11.6) | 26 (68.4) | **<0.0001** |
| **Ssyatolic Arterial Pressure<100, mmHg, n (%)** | 144 (56.7) | 120 (55.6) | 24 (63.2) | **0.047** |
| **Saturation $O_2$<90, n (%)** | 201 (79.1) | 170 (78.7) | 31 (81.6) | 0.055 |
| **Mental status, n (%)** | 25 (9.8) | 9 (4.2) | 16 (42.1) | **<0.0001** |
| **Body Temperature (°C)<36, n (%)** | 8 (3.1) | 4 (1.9) | 4 (10.5) | **0.019** |
| **Right ventricle/Left ventricle > 1(Computerized Tomography), n (%)** | 164 (64.6) | 131 (60.6) | 33 (89.2) | **0.001** |
| **Comorbidity** | | | | |
| **Hypertension, n (%)** | 127 (50.0) | 110 (50.9) | 17 (44.7) | 0.482 |
| **Diabetes Mellitus, n (%)** | 56 (22.0) | 49 (22.7) | 7 (18.4) | 0.559 |
| **Previous coronary artery disease, n (%)** | 34 (13.4) | 29 (13.4) | 5 (13.2) | 0.964 |
| **Previous congestive heart failure, n (%)** | 9 (3.5) | 6 (2.7) | 3 (7.9) | **0.048** |
| **Previous Malignancy, n (%)** | 23 (9.1) | 12 (5.6) | 11 (28.9) | **<0.0001** |
| **Chronic obstructive** | 33 (13.0) | 31 (14.4) | 2 (5.3) | 0.094 |

| | | | | |
|---|---|---|---|---|
| **pulmonary disease, n (%)** | | | | |
| **Previous cerebrovascular Accident, n (%)** | 11 (4.3) | 9 (4.2) | 2 (5.3) | 0.510 |
| **Deep venous thrombosis, n (%)** | 49(19.3) | 39(17.8) | 10(27.1) | 0.202 |
| **PESI** | 132.8±39.7 | 122.8±29.3 | 189.4±43.8 | **<0.0001** |
| **Simplified PESI≥1** | 132(52) | 104(48.1) | 28(73.7) | **<0.0001** |
| **Laboratory findings** | | | | |
| **Haemoglobin, (g/dl)** | 12.2±1.9 | 12.4±1.9 | 11.9±2.2 | 0.185 |
| **Platelet, ($10^3$ /µl)** | 228.5±79.8 | 227.9±75.4 | 231.6±100.3 | 0.799 |
| **Leukocytes, ($10^3$ /µl)** | 10.7±3.5 | 10.2±3.2 | 13.2±3.8 | **<0.0001** |
| **Neutrophile, ($10^3$ /µl)** | 7.2±3.3 | 6.8±3.1 | 8.9±3.9 | **<0.0001** |
| **MPV, fL** | 8.5±1.2 | 8.2±2.5 | 11.2±3.6 | **0.024** |
| **Red cell distribution width** | 14.3±2.1 | 14.1±1.8 | 15.6±2.9 | **<0.0001** |
| **Platelet distribution width** | 16.9±9.4 | 14.2±3.5 | 17.3±10.1 | **0.001** |
| **Neutrophile/lymphocite ratio (NLr)** | 5.2±4.1 | 4.7±3.8 | 7.4±6.1 | **0.013** |
| **Serum creatinine, (mg/dl)** | 1.1±0.8 | 1.1±0.9 | 1.2±0.5 | 0.130 |
| **BUN, (mg/dl)** | 46.4±25.4 | 41.9±20.1 | 72.1±35.9 | **<0.0001** |
| **Glomerular filtration rate, (mL/dk/1.73m$^2$)** | 77.1±27.2 | 80.6±26.1 | 57.3±25.1 | **<0.0001** |
| **Sodium, (mmol/L)** | 138.5±4.3 | 138.8±3.9 | 136.8±6.1 | **0.009** |
| **Potassium, (mmol/L)** | 4.3±0.5 | 4.3±0.5 | 4.5±0.6 | 0.075 |
| **Glucose, (mg/dL)** | 159.6±75.1 | 158.3±78.1 | 167.0±55.3 | 0.511 |
| **Uric acid, (mg/dL)** | 5.9±2.2 | 5.7±1.9 | 7.8±2.9 | **<0.0001** |
| **Albumine, (g/dl)** | 3.7±0.5 | 3.8±0.5 | 3.2±0.7 | **<0.0001** |
| **C-reactive protein, (mg/dL)** | 24.4 (0.52-300) | 40.5 (0.52-272) | 66.1 (6.1-300) | **0.003** |
| **Troponin I, (pg/ml)** | 120.0 (2-6000) | 212.3 (2-1625) | 1051.2 (10-6000) | **0.014** |
| **NT-proBNP, (ng/mL)** | 4328(53.7-14800) | 3863.9(53.7-10400) | 10800(5890.7-14800) | **0.031** |

| | | | | |
|---|---|---|---|---|
| **D-dimer, (ng/mL)** | 4.8(0.12-35.9) | 4.2(0.12-12.8) | 10.1(0.13-35.9) | **0.046** |
| **Echocardiography Findings** | | | | |
| **Left ventricular ejection fraction, (%)** | 55.9±4.8 | 56.5±4.5 | 53.2±5.7 | **<0.0001** |
| **Left ventricular end diastolic dimension, (mm)** | 44.7±3.6 | 44.7±3.4 | 44.2±4.2 | 0.357 |
| **Right ventricular dimension,(mm)** | 35.6±5.7 | 34.9±5.6 | 39.2±4.8 | **<0.0001** |
| **RVD/LVD ratio >1** | 21 (8.3) | 14 (6.5) | 7 (18.4) | **0.023** |
| **Pulmonary artery systolic pressure, (mmHg)** | 47.6±10.9 | 46.3±10.6 | 54.9±9.7 | **<0.0001** |
| **In-hospital Outcomes** | | | | |
| **Length of Hospital Stay, n (days)** | 6.1±4.9 | 6.6±4.2 | 5.4±4.8 | **0.031** |
| **Intensive care unit admission, n (%)** | 171(67.3) | 136 (62.1) | 35 (92.1) | **<0.0001** |
| **Patients receiveing trombolytic therapy, n (%)** | 77(30.3) | 55(25.5) | 22(57.9) | **<0.0001** |
| **Advanced Ventilatory Support, n (%)** | 39(15.4) | 11(5.1) | 28(73.7) | **<0.0001** |

| | **Univariate OR** | **95% CI** | **p** | **Multivariate OR** | **95% CI** | **p** |
|---|---|---|---|---|---|---|
| **PESI** | 1.043 | 1.031-1.056 | **<0.0001** | 1.035 | 1.018-1.053 | **<0.0001** |
| **Leukocytes** | 1.061 | 1.005-1.121 | **0.034** | 0.956 | 0.737-1.240 | 0.956 |
| **Neutrophil** | 1.189 | 1.077-1.314 | **0.001** | 0.835 | 0.600-1.161 | 0.284 |
| **RDW** | 1.329 | 1.139-1.551 | **<0.0001** | 1.548 | 1.186-2.020 | **0.001** |
| **PDW** | 0.936 | 0.872-1.004 | 0.064 | | | |
| **MPV** | 1.339 | 1.007-1.781 | **0.045** | 1.152 | 0.517-2.570 | 0.729 |
| **NLr** | 1.259 | 1.140-1.390 | **<0.0001** | 1.529 | 1.125-2.078 | **0.007** |
| **C-reactive protein** | 1.009 | 1.003-1.025 | **0.004** | 1.001 | 0.986-1.015 | 0.919 |
| **Troponin I** | 1.007 | 1.001-1.016 | **0.001** | 0.987 | 0.952-1.002 | 0.085 |
| **NT-proBNP** | 1.008 | 0.821-1584 | 0.997 | | | |
| **D-dimer** | 0.932 | 0.843-1.030 | 0.168 | | | |




Objective

Acute pulmonary embolism (PE) remains one of the main reasons of morbidity and mortality in the emergency and cardiovascular perspective, notably when associated with hemodynamic instability. Thrombolytic therapy is recommended in PE patients presenting with hypotension or shock with a high mortality. In addition, patients with normotensive PE can sometimes develop hemodynamic collapse or sudden death despite adequate anti-coagulant therapy. Therefore, it is crucial to early identify those patients in order to tailor treatment. The pulmonary embolism severity index (PESI), is a well-established parameter that could detect early mortality risk in these patients. PESI is mainly based on clinical parameters, but its sensitivity has been shown to be improved using additional biomarkers such as cardiac troponin (Tn) and N-terminal pro-brain natriuretic peptide (NT-proBNP). Hemogram parameters such as mean platelet volume (MPV), neutrophil/lymphocyte ratio (NLr), eosinophil, red cell distribution width (RDW) and platelet distribution width (PDW) are widely used as inflammatory markers to assess prognosis in various cardiovascular diseases. In this study, we aimed to investigate the role of hemogram parameters in predicting the mortality in patients presenting with acute PE.

Methods

Patients hospitalized with a diagnosis of PE in our tertiary center between 2016 and 2021 were included in this retrospective study. PE was diagnosed according to the criteria of the European Society of Cardiology Guidelines, and the diagnosis was confirmed by a filling defect in the pulmonary artery system in the computed tomography pulmonary angiography (CTPA), including sub-segmental PE. Demographic, clinical and laboratory data were reviewed from the hospital database. In-hospital mortality data were documented and patients were divided into two groups according to in-hospital mortality. PE related parameters such as treatment with thrombolytic agents, transfer to intensive care unit or mechanic ventilation requirement were noted.

Results

There was a total of 254 patients (37.4% male). Mean age of the study cohort was 62.7±15.5. There were 77(30.3%) patients that received thrombolytic treatment. 38 patients formed the in-hospital mortality group (non-survivor). Both groups were similar in terms of age, gender, body mass index, hypertension, diabetes mellitus, coronary artery disease, chronic obstructive pulmonary disease and cerebrovascular accident rates. History of malignancy and heart failure were significantly higher in the non-survivor group. Regarding labaratory markers; uric acid, BUN, CRP, Tn, NT-proBNP, and D-dimer, leukocyte, neutrophil, MPV, RDW, PDW and NLr were significantly higher in the non-survivor group. Moreover, serum sodium, albumine and GFR were significantly lower in non-survivor group. In terms of echocardiography findings, the non-survivor group had significantly lower ejection fraction, while higher pulmonary artery pressure and right ventricular dimension. Furthermore, PESI and simplified PESI were significantly higher in non-survivor group.

Multivariate logistic regression analysis revealed that PESI($p<0.0001$), RDW($p=0.001$) and NLr($p=0.007$) were independent risk factors associated with in-hospital mortality. ROC curve for accuracy of PESI score, RDW and NLr for predicting in-hospital mortality in PE patients are shown in Figure 1. A cut-off value of 141.5 for PESI score was associated with 76.3% sensitivity and 75.9% specificity; 5.9 for NLr was associated with 68.4% sensitivity and 68.1% specificity; 14.1 for RDW was associated with 68.4% sensitivity and 62.6% specificity in predicting in-hospital mortality.

Conclusion

Our current study showed that hematological parameters, assessed by routine blood count analysis suggest that it may serve as a promising and useful marker for in-hospital mortality of patients with acute PEespecially when used in combination with traditional risk scores. Thus, concomitant use of hematological parameters and PESI scores to define high-risk normotensive and hypotensive PE patients and to predict poor prognosis may be clinically applicable with high specificity and positive probability.

ID: **246**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# PULMONARY EMBOLISM FOLLOWING THE EXTRACTION OF TWO MALFUNCTIONING ICD ELECTRODES

***Ceren OZDEMIR AL*[1], *Ümit GÜRAY*[1], *Şenay Funda DEREAĞZI*[2]**

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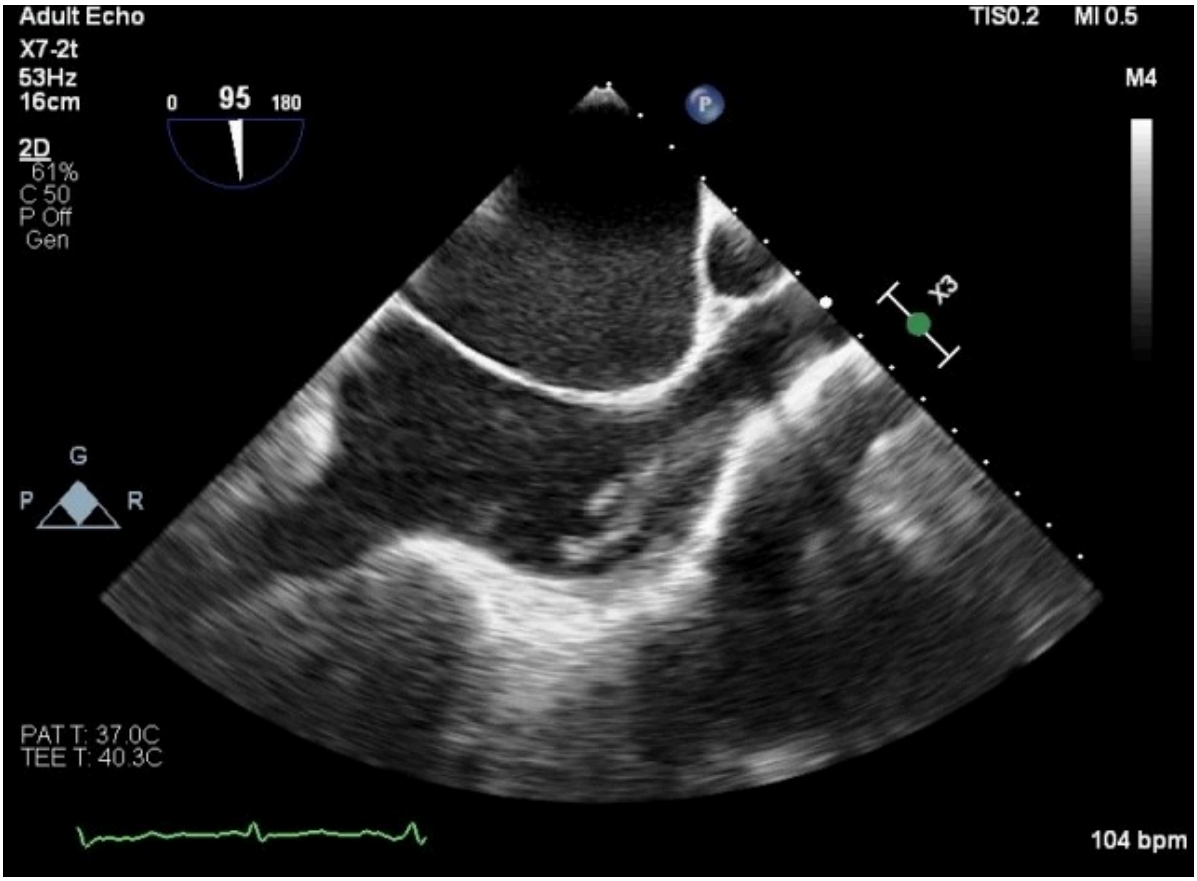
*Background: ICD implantation rates have substantially increased recently. As a consequence, device related complications are seen more often. In this case, we have reported a patient with a right ventricle lead dysfunction who developed pulmonary embolism after lead extraction.*

*Methods: A 56-year-old male with non-ischemic cardiomyopathy was admitted to cardiology department outpatient unit after his ICD device made an alarm sound.*
*He was hemodynamically stable and had no other complaints. He had slight limitation during moderate physical activity. (NYHA class II) During his ICD interrogation, it was found that RV-lead impedance was increased to very high levels suggesting a lead fracture.There were no recorded therapies.*
*In his history, VR-ICD device was implanted four years-ago for primary prevention. 2 years ago, pulmonary CTA was performed and showed no blood cloths in pulmonary arteries. Seventeen months ago, he was hospitalized because of lead dysfunction. A new RV lead was implanted without extracting the old one.*
*In TTE, LVEF was 20%. There was moderate MR and TR, SPAP was measured at 40mmhg. TAPSE was 18mm. Complete device extraction with removal of all leads was performed. He suffered from mild dyspnea after operation. His chest XRay showed no pneumothorax. Although he was hemodynamically stable, his post-operative TTE showed mobile thrombus-like formation in right atrium extending into right ventricle. There was moderate to severe tricuspid regurgitation and systolic pulmonary artery pressure was found to be increased to 72mmhg. TAPSE was 14mm. TOE was performed and detected a 28mm length, mobile, serpentine-like mass originating from SVC and protruding into the RA. The images were suggesting thrombus in the first place. Tricuspid valve was intact* but its coaptation was impaired.




In order to identify the structure of the mass, Cardiac MRI was performed which revealed filling defect primarily suggesting a thrombus extending from SVC into the RA. Pulmonary CTA was performed. Filling defects suggesting thrombi were observed in the proximal sections of bilateral pulmonary artery segmental branches.
Results: After analyzing patient's pulmonary CTA and echocardiography, thrombolytic therapy was planned. T-PA (Alteplase- 100mg)was given to the patient with 2-hour infusion regime. After thrombolytic infusion SPAP decreased to 40mmhg and TAPSE was 19mm. Patient's symptoms improved.
Conclusion: Pulmonary embolism can complicate ICD lead extractions, therefore it should be considered in differential diagnosis of patients who develop dyspnea after such procedures.

ID: **18**

Topic: **Cardiology > Peripheral arterial diseases**

Presentation Type: **Oral**

# THE PREDICTIVE VALUE OF EOSINOPHIL COUNT FOR SHORT TERM MORTALITY IN PATIENTS WITH ACUTE PULMONARY EMBOLISM

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Objective

Eosinopenia is considered a surrogate marker of inflammation in numerous disease settings. However, there are no studies have examined the effect of eosinophil count on outcomes of patients with acute pulmonary embolism (APE). Therefore, we sought to study whether there is any relationship between eosinopenia and short-term mortality in APE.

Methods

This retrospective study included adult patients hospitalized due to APE clinical, echocardiographic, and laboratory data recorded on admission. Patients were separated into two groups in accordance with survival status, then three groups according to eosinophil counts. The primary endpoint of our study was in-hospital and one-month mortality.

Results

In this study, in-hospital mortality was 8.9% (n:21) and one-month mortality was 17.8% (n:42) in the patients with APE. Compared with survivors, non-survivors were older, had higher CRP, blood urea nitrogen levels and, had higher malignancy, coronary artery disease, and congestive heart failure frequencies at study entry. However, the eosinophil number was lower in non-survivors. In the multivariate logistic regression analysis, eosinophil count ≤ 100/µl (HR:1.825, 95%CI: 1.215–2.741, p = 0.004), risk group (HR: 0.670, 95% CI: 0.492–0.911, p = 0.011) and, age (HR: 1.063, 95%CI: 1.037–1.090, p < 0.001) independently correlated with mortality. The receiver operating characteristic (ROC) curve analysis revealed that eosinophil count ≤100/µl predicted the one-month mortality in APE with a sensitivity of 65.1% and specificity of 86.7% (AUC: 0.782, 95% CI: 0.723–0.833; p < 0.0001).

Conclusion

Eosinophil is an easily determined marker that may be a valuable component of PE risk prediction models.

ID: **81**

Topic: **Cardiology > Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

# DOES PVC BURDEN INDICATE PULMONARY HYPERTENSION IN PATIENTS WITH SCLERODERMA?

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INTRODUCTİON: SSc is an autoimmune disease characterized by microvascular damage, endothelial dysfunction and fibrosis of the skin and the internal organs. Cardiac manifestation in patients with SSc is one of the major organ involvements. Approximately 20% of SSc patients suffer from primary cardiovascular disease and another 20% may have secondary cardiac involvement. Patients with scleroderma have the risk of developing progressive blood vessel narrowing in the lungs frequently in the absence of lung scarring and inflammation. This complication is called pulmonary arterial hypertension (PAH). Arrhythmias and conduction disorders are common among patients with scleroderma.

METHOD: Pvc was classified < %1, %1-5, %5-10, > %10 . PHT was classified normal ( < 30 MMHG ), moderate ( PAB:30-50 MMHG ), severe ( PAB> 50 MMHG).

RESULTS: Patients with severe PHT were older (52.5 ± 11.7 vs. 46.8 ± 9.8 years, p=0.05) had higher Pvc burden, chamber enlargement on echocardiography.

CONCLUSİON:

Arrhythmias are common in patients with scleroderma. Higher Pvc burden is clue for degree of PHT.

ID: **220**

Presentation Type: **Oral**

# ACUTE SEVERE MITRAL REGURGITATION DUE TO CHORDAL RUPTURE IN A YOUNG FEMALE: A RARE COMPLICATION OF SARS-COV-2

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OBJECTIVE:Due to the increasing evidence since its emergence, it is now well known that SARS-Cov-2 infection is characterized by involvement of different systems like cardiovascular, gastrointestinal, and neurological besides respiratory system. How myocardial damage develops, remains a mystery. Among the possible mechanisms, it is shown that the virus interacts with ACE2, causing cytokine increase, platelet and endothelial dysfunction, and hypercoagulation.

METHODS:We report a case of severe mitral regurgitation that developed acutely due to chordae rupture on the fifth day of COVID-19 treatment in a young female patient with normal ejection fraction, coronary anatomy, and troponin levels.

RESULTS:

A 39-year-old female patient was admitted to our hospital with progressive dyspnea, chest, and back pain at third week of her COVID-19 treatment. Medical story revealed that her symptoms started at fifth day of her diagnosis. At a local center, she was diagnosed with severe mitral regurgitation and referred to our hospital for further treatment.

On physical examination, there was apical systolic murmur at apex (2-3/6), but lung examination revealed normal breath sounds without any rales. ECG was in sinus rhythm with a rate of 95/min and no significant ST-T change was detected. Vital signs at her admission were as follows: blood pressure 125/75 mmHg, 22 breaths per minute, body temperature of 36.8 C, oxygen saturation at room air of %91. Troponin and white blood cells were within normal limits. No significant abnormality was detected in the chest X-ray, except for an increase in vascularity (Fig. 1). TEE revealed normal ejection fraction (EF) with severe mitral regurgitation (MR) due to anterior chordae rupture (Fig. 2).

After short-term diuretic therapy, the patient underwent coronary angiography and normal coronary anatomy was determined. Mitral repair surgery using Chitwood technique was performed with mitral chordal replacement and ring annuloplasty (Fig. 3). Postoperative TEE showed no regurgitation (Fig. 4). The patient was discharged in good condition four days after the operation.

CONCLUSIONS:

Our case may be a good example for the valve involvement of COVID-19 and the development of acute severe MR. With more patient data and increasing experience, the issue will be further clarified.

ID: **256**

Topic: **Cardiology > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

# THE VALUE OF PLASMA INR AND D-DIMER LEVELS IN PREDICTING PROSTHETIC VALVE THROMBOSIS

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The Value of Plasma INR and D-dimer Levels in Predicting Prosthetic Valve Thrombosis

Objective: Prosthetic valve thrombosis (PVT) and thromboembolism were the main complications after valve replacement. In cases of suspected PVT, transesophageal echocardiography (TEE) is recommended and yields detailed visualization of PVT for diagnosis and guiding the therapy . However, non-obstructive PVT may be missed with transthoracic echocardiography. The predictive markers other than transthoracic echocardiography are needed. Plasma D-dimer levels are the best biochemical parameter that indirectly shows active fibrinolytic activity as well as increased coagulation activity. Hence, We aim to investigate the value of D-dimer and INR in terms of predicting the presence of PVT.

Methods: A total of 124 patients, 77 with mitral, 20 aortic, and 27 with prosthetic valves in both mitral and aortic postions, were included (male:78, mean age: 45±11.89 years). Laboratory, transthoracic and transesophageal echocardiographic findings were evaluated. Patients with recent surgery, acute coronary syndrome, venous thrombosis or pulmonary embolism in the last 6 months, presence of intra-cardiac thrombus, disease associated with acute phase reactions, such as acute infection, malignancy, severe liver or renal failure, and pregnant patients were excluded.

Results: TEE examination revealed obstructive PVT in 3 patients and non-obstructive in 19 patients (22 (17.7%)). AF was present in 58 (46.7%) patients. Median INR level was 1.98 (0.90-4.2).Plasma D-dimer levels were 148.01 (11-1596) ng/ml. In patients with high plasma D-dimer, the left atrium and left ventricle were more dilated, LVEF is lower, there were more intense SEC in the left atrium and more frequent PVT than in those with normal D-dimer level. D-dimer levels were significantly higher in patients with PVT than in patients without PVT (62% vs 31%, p=0.007) (Table 1). Independent predictors of PVT were high D-dimer (OR:0.993 CI: 0.988-0.998 p=0.06) and ineffective INR (OR:2.906 CI: 1.078-7.832 p=0.047). When the D-dimer cut-off value for PVT was taken as 128.5ng/ml, sensitiity and specificity were 62% and 60%, and the diagnostic feasibility was 60% ( positive predictive value 24%, negative predictive value 89%).

Conclusions: High D-dimer and low INR are predictors of the presence of PVT in patients with prosthetic valve. Furthermore, normal plasma D-dimer levels may be used as an adjunctive finding for the absence of PVT, especially in patients with normal transthoracic echocardiographic evaluation.

**Oral Presentation Session**

**New Perspectives in Valvular Heart Diseases**

**Date: 03.12.2022 Time: 10:30-11:30 Hall: 5**

ID: **86**

Topic: **Cardiology > Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Oral**

# EVALUATION OF R WAVE PEAK TIME IN PATIENTS WITH MITRAL VALVE PROLAPSE

**Uğur KÜÇÜK**

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OBJECTIVE: Mitral valve prolapse (MVP) is a common disorder in the general population. An increased incidence of sudden death has also been reported in patients with MVP. R wave peak time (RWPT) indicates ventricular activation and is associated with poor cardiovascular outcomes. Our aim is to investigate whether the R wave peak time changes in patients with MVP.

METHODS: This study compared RWPT between the MVP (40 patients) and age- and gender-matched control group (40 patients). The difference in RWPT was examined using electrocardiography.

RESULTS: In patients with MVP, RWPT in ms ([29.60±3.20] vs. [25.40±1.25], $p < 0.001$) was statistically significant compared to the control group. RWPT statistical differences were also observed between female and male genders in patients with MVP ([30.72±2.59 ms] vs. [27.73±3.34 ms], $p = 0.003$, respectively).

CONCLUSIONS: MVP may cause increased RWPT linked to change in ventricular activation times compared to controls.

Keywords: mitral valve prolapse, R wave peak time, electrocardiography

Table 1. Basal characteristics of the study population

| Variables | Patients with MVP (n:40) | Patients without MVP (n:40) | P value |
|---|---|---|---|
| Age, years | 28.5±4.06 | 29.5±4.04 | 0.251 |
| Female sex, n % | 25 (62.5) | 21 (52.5) | 0.497 |
| LVEF, % | 57.92±2.06 | 58.22±2.24 | 0.536 |
| PR segment, ms | 146.20±9.91 | 147.67±11.40 | 0.539 |
| QRS duration, ms | 85.57±9.78 | 82.60±3.69 | 0.078 |
| QTc interval, ms | 413.25±10.71 | 412.75±10.37 | 0.833 |
| RR interval, ms | 724.55±64.94 | 718.47±68.20 | 0.684 |
| R wave peak time, ms | 29.60±3.20 | 25.40±1.25 | <0.001 |

MVP: Mitral valve prolapse, LVEF: Left ventricular ejection fraction, QTc: Corrected QT

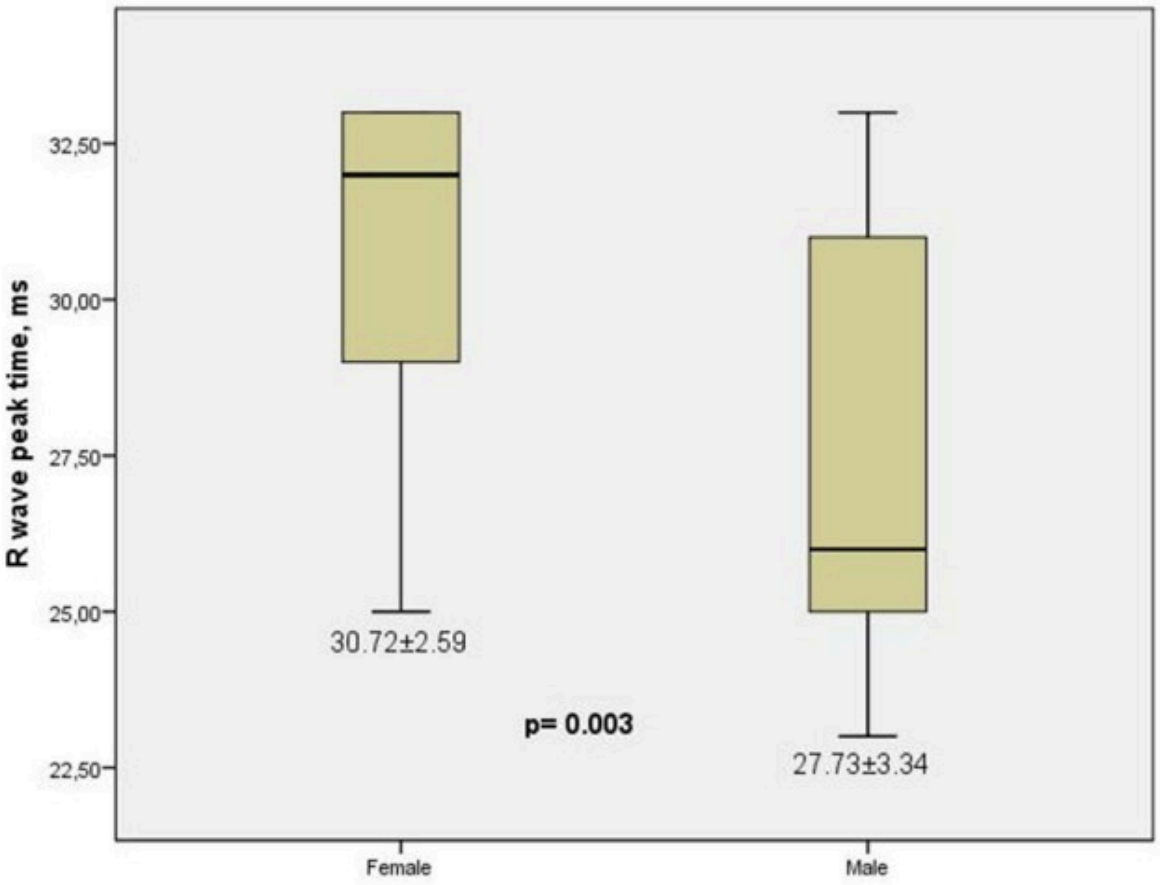


Figure 1: Comparison of RWPT between genders in patients with MVP

ID: **19**

Topic: **Cardiology > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

## PROGNOSTIC ROLE OF NT-PROBNP/TNT IN INFECTIVE ENDOCARDITIS

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| Variables | % or means |
|---|---|
| Age (Years) | 57.4±16.9 |
| Gender | |
| Male, n (%) | 24, (57.1) |
| Female, n (%) | 18, (42.9) |
| Body mass index | 25.7±4.3 |
| Euro SCORE II | 7.6±5.7 |
| NYHA (3-4), n, (%) | 30, (71.4) |
| Hypertension, n (%) | 17, (40.5) |
| Chronic Renal Failure, n (%) | 7, (16.7) |
| Diabetes mellitus, n (%) | 11, (26.2) |
| Current smoker, n (%) | 2, (4.8) |
| Coronary Artery Disease, n (%) | 3, (7.1) |
| Malignancy, n (%) | 1, (2.4) |
| Ejection fraction (%) | 57.6±7.2 |
| Left atrial diameter, (mm) | 42.2±5.3 |
| C-Reactive Protein, (mg/L) | 112.7±77.8 |
| Erythrose sedimentation rate, (mm/h) | 62.3±30.3 |
| White blood cell, ($10^3/\mu L$) | 11.4±4.2 |
| Hemoglobin (g/dl) | 9.6±1.8 |
| Platelet, ($10^3/\mu L$) | 257±144 |
| Creatinine, (mg/dl) | |
| Procalcitonin, (µg/L) | 1.57 (0.07-36.9) |
| NT-proBNP, (pg/ml) | 11745 (124-35000) |
| Troponin, ng/ml) | 171.4±37.8 |
| NT-proBNP/Troponin | 28.4 (3.93-2187) |
| In-hospital stay (days) | 33.2±15.6 |
| Surgery, n (%) | 29, (69) |

**NYHA:** New York Heart Association**; SD**: Standard deviation; **NT-proBNP**: N-terminal prohormone of brain natriuretic peptide

**Table 1.** Demographic and clinical variables of the patients.

**Objective**

The aim of this study is to evaluate the role of NT-proBNP/TnT for the prediction of mortality and the risk of complications during hospitalization due to infective endocarditis.

**Methods**

Seventy-five patients hospitalized with suspected IE (2017-2019) were evaluated. Using hospital record system, data regarding a total of 43 patients were included in this single center, retrospective study.

**Results**

The mean age of patients was 57.4 years and 57% were men. Most frequent comorbidities werediabetes mellitus and hypertension (26.2% and 40%, respectively). There were 3 patients (7%) with a previous diagnosis of coronary artery disease and 2 (5%) with chronic obstructive pulmonary disease. NYHA Class III/IV was present in 71.4%. In echocardiography, 25 patients (59.5%) had vegetations in mitral valve position, 19 (45.2%) had aortic and 9 (21.4%) patients had both in aortic and mitral valve positions. All of the six patients with prosthetic valve infection (1 with bio prosthesis) were in mitral localization. The size of the vegetation was greater than 20mm in 13 patients, 10 - 20 mm in 25 patients and less than 10 mm in 5 patients. A total of 17 patients had a positive blood culture pre- operatively, with Staphylococcus Aureus being the most cultured organism (14%). Embolic phenomena were occurred in 21 patients (50%) where the most common sites were cerebral (26.2%), splenic (11.9%), peripheral arterial system (7.11%) and renal (9.5%).

When the patients divided into 2 groups according to in-hospital mortality, age (52.5 ±16 vs 66.1±15; p=0.011), BMI (26.9±4.4 vs 23.6±3.2; p=0.018), EuroSCORE II (4.9±2.9 vs 12.5±6.6; p<0.0001), CRP (90.3±62.8 vs 152.9±87.9; p=0.011), NT-proBNP/ TnT [22.5(3.9-109.38 vs 363.4 (4.5-2187.5); p <0.0001] and procalcitonin (4.5±1.7 vs 14.66±3.5; p=0.006) were higher, hemoglobin (10.1±1.9 vs 8.8±1.3; p=0.033) and platelet (296±23 vs 189±42; p=0.021) were lower in non-survivor group. Binary logistic regression analysis revealed that none of the variables were an independent risk factor for mortality.

**Conclusion**

NT-proBNP/TnT didn’t provide any additional benefit compared to the either of the markers (NT-proBNP or TnT) independently.

ID: **237**

Topic: **Cardiology > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

# CLINICAL EVALUATION OF CHILDREN DIAGNOSED WITH INFECTIVE ENDOCARDITIS

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Introduction: Infective endocarditis is a rare disease with high mortality and morbidity. In recent years, an increase in the frequency of infective endocarditis has been observed due to the increase in the survival of cases with congenital heart disease and the use of indwelling central catheters. In this study, we retrospectively evaluated our patients who were followed up with the diagnosis of infective endocarditis.

Material and methods: Thirteen cases diagnosed with infective endocarditis in Pamukkale University Medical Faculty Hospital Pediatric Cardiology Clinic between January 2016 and August 2021 were included in the study. Demographic characteristics, underlying heart diseases, predisposing factors, clinical, laboratory, microbiological and echocardiographic findings of the patients were retrospectively analyzed.

Results: The mean age of the patients included in this study was 9.5±6.5 years (3-17 years) and the male/female ratio was 6/7. Two patients (15%) had recurrent episodes of infective endocarditis. The prevalence of infective endocarditis in Pamukkale University Medical Faculty Hospital Pediatric Clinic was found to be approximately 2,5 per 100.000. Six patients (46%) had congenital heart disease and four (31%) had acquired heart disease. Three of the four patients with acquired heart disease were being followed up with a diagnosis of rheumatic carditis and the other with a diagnosis of dilated cardiomyopathy. The other three (23%) patients were under immunosuppressive therapy and these patients had a long-term port catheter. When all patients were evaluated; Fever was detected in 85% of the patients, elevation in acute phase reactants in the laboratory, and a vegetative mass on echocardiography. Growth was detected in blood culture in eight (62%) patients. Growth was found in the blood cultures of four of six patients with congenital heart disease as a predisposing factor (Streptococcus viridans, Streptococcus gordoni, Staphylococcus aureus, Staphylococcus epidermidis). Growth of Streptococcus

viridans and Brucella were detected in two of the four patients with acquired heart disease. Two of the three patients who were under the immunosuppressive therapy and had a port catheter had growth in their blood culture. These were Candida albicans and Staphylococcus epidermidis. Six of the patients (%46) who were under the evaluation had developed complications due to infective endocarditis. Surgical operation was required for four patients.

Conclusion: Infective endocarditis is still continuing to be a major health problem in patients with congenital and acquired heart disease. Infective endocarditis prophylaxis is vital importance in these patients. Patients that have long term central catheter are also under risk.

**Oral Presentation Session**

**Understanding the Heart Failure: From Biomarkers to Imaging**

**Date: 03.12.2022 Time: 12:00-13:00 Hall: 5**

ID: **75**

Topic: **Cardiology > Electrocardiography and non-invasive electrocardiology**

Presentation Type: **Oral**

## THE SELVESTER SCORE MAY BE USEFUL TO PREDICT CARDIAC IRON DEPOSITION IN BETA-THALASSEMIA PATIENTS WITH PRESERVED EJECTION FRACTION

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*[2]Cardiology Department, Faculty of Medicine, afyonkarahisar, Turkey*

Objective: Thalassemia is one of the major hereditary diseases occurring mainly in the Mediterranean. And Beta-thalassemia major (β-TM) is the most severe form, requiring regular blood transfusions (1). However, this therapy may lead to cardiomyopathy and arrhythmic events. Cardiac T2* magnetic resonance imaging (MRI) is the gold standard method for early detection of the cardiovascular iron load. However, we need an easily done and conveniently accessible diagnostic tool since MR imaging is expensive and unavailable in many centers. This abstract attempts to show Selvester score could be a predictor of iron accumulation in β-TM cases.

Material Method: The study is a retrospective cohort analysis conducted at a tertiary health center. A total of 92 consecutive β-TM patients who attended the cardiac outpatient clinic between January 2018 and January 2020 after hematological follow-up were examined. Criteria for excluding the subjects were as follows: diabetes mellitus, hypertension, infiltrative heart disease, patients with decreased left ventricular (LV) ejection

fraction; valvular heart disease; coronary artery disease; atrial fibrillation or arrhythmia; chronic kidney and liver disease; a history of malignancy and < 18 years old. All participants underwent cardiac MRI within 1 to 2 weeks after blood transfusion. According to the MRI, the patients were divided into two groups depending on whether there was cardiac involvement or not. The cardiac T2* values under 20 were considered a cardiac iron overload. In addition, we recorded 12-lead electrocardiography (ECG) in all patients on the same day as the cardiac MRI. Then, we calculated the 32-point Selvester QRS score from surface ECG.

Result: The mean age of the study group was 29.5 (18-47), and 53.2% were female (n=49). Cardiac involvement was found in 34% (n=32) of patients. Baseline characteristics, ECG, and laboratory parameters of the studied thalassemia cohort are presented in Table 1. Selvester score was higher in the iron overload group (3.09±1.07 vs.1.32±0.74, p<0.001). In addition, a strong correlation was found between the cardiac T2*-MRI value and the Selvester score (r=-0.602, p<0.001). Therefore, a receiver operating characteristic (ROC) curve analysis was performed, and the area under the curve (AUC) was and 2.25 cut-off value (74.6% sensitivity and 88.9% speci city [6.72 positive likelihood ratio]).

Conclusions: Our study found that a high Selvester score may predict iron deposition in β-TM patients. In addition, as an inexpensive and non-invasive method, the Selvester score can aid in decision-making in these patients.

Keywords: beta-thalassemia major, electrocardiography, Selvester score, cardiac MR imaging

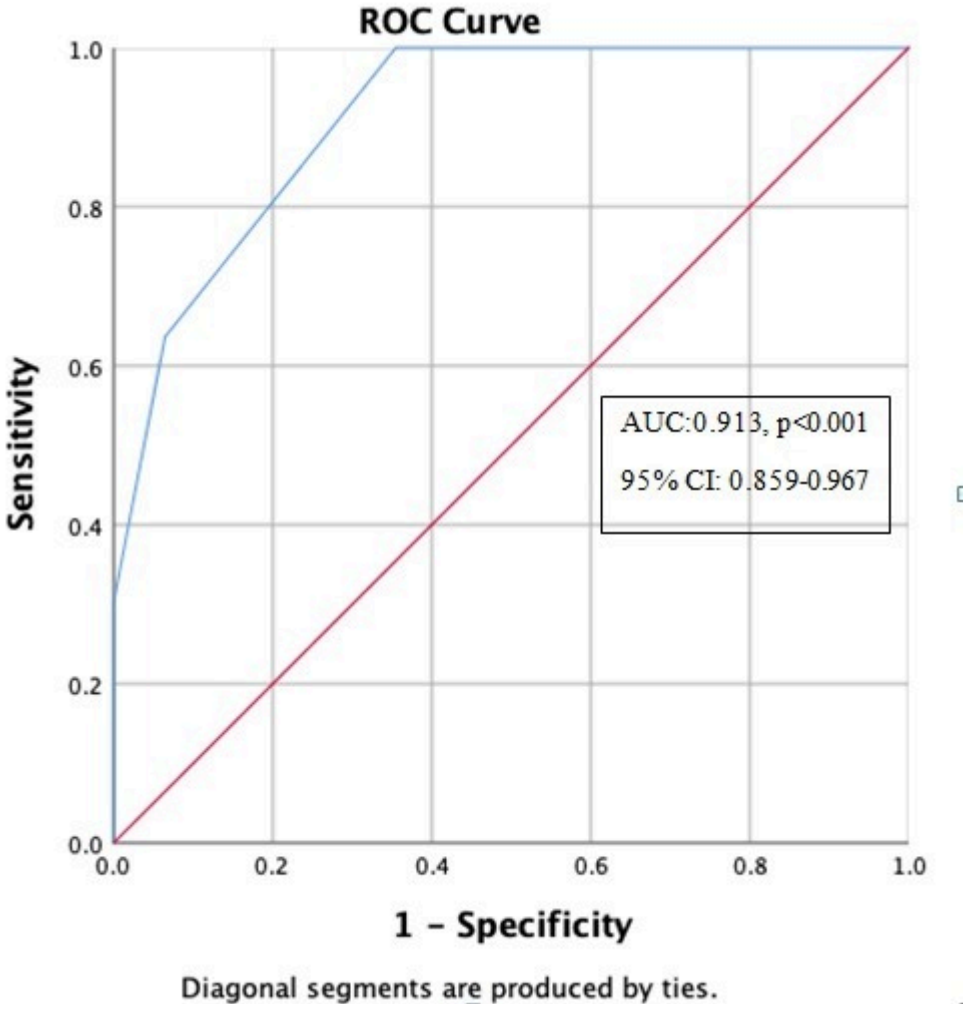
**Table 1:** Basal characteristics, ECG and laboratory parameters of the study population

| **Variables** | **Cardiac Iron Load (n=32)** | **No Cardiac Iron Load (n=60)** | **p-value** |
|---|---|---|---|
| Age | 27.2±7.6 | 30.6±11.6 | 0.134* |
| Sex (F/M) | 23/9 | 26/34 | 0.004 |
| Selvester Score | 3.09 ±1.07 | 1.32±0.64 | <0.001* |
| LV EF (%) | 62.7±3.3 | 63.0±2.7 | 0.600* |
| Cardiac T2 STAR | 12.39±5.69 | 32.70±8.00 | <0.001* |
| **ECG parameters** | | | |
| HR, bpm | 87.8±16.5 | 81.2±12.4 | 0.030* |
| P duration, msec | 105.79±18.35 | 103.47±17.73 | 0.550* |
| QRS duration, msec | 89.88±24.18 | 91.97±18.88 | 0.634* |
| Tp-e, msec | 95.39±21.75 | 89.73±17.41 | 0.170* |
| QT interval, msec | 369.64±34.05 | 366.55±27.04 | 0.630* |
| cQT interval, msec | 446.12±29.23 | 424.23±21.86 | <0.001* |
| Tp-e/QT ratio | 0.255±0.066 | 0.241±0.047 | 0.222* |
| Tp-e/cQT ratio | 0.209±0.050 | 0.478±0.021 | 0.471* |
| **Laboratory parameters** | | | |
| Hb | 9.16±0.68 | 8.92±1.03 | 0.236* |
| Wbc | 12.48±5.54 | 17.34±7.35 | 0.065* |
| Plt | 452.6±131.7 | 557.6±170.6 | 0.062* |
| Creatinine | 0.64±0.14 | 0.67±0.14 | 0.120* |

| | | | |
|---|---|---|---|
| ALT | 45.73±14.38 | 32.56±15.63 | 0.860 |
| Ferritin (Median, 25-75 IQR) | 2102.0 (1105.0-5196.0) | 963.5 (498.2-1793.2) | 0.002 |

ECG: Electrocardiography, F: Female, M: Male, LV EF: left ventricular ejection fraction, HR: Heart rate, bpm: beat per minute, Hb: Hemoglobin, Wbc: white blood cell, PLT: platelet, ALT: alanine transaminase, IQR: Interquartile range, *: Mean±standard deviation

**Figure 1**: Receiver Operating Characteristic (ROC) curve analysis of Selvester score to predict cardiac iron load




AUC: Area under the curve, CI: Confidence interval, ROC: Receiver operating curve

ID: **254**

Topic: **Cardiology > Hypertrophic cardiomyopathy**

Presentation Type: **Oral**

# THE IMPACT OF GENDER ON STRUCTURAL AND FUNCTIONAL FEATURES IN PATIENTS WITH HYPERTROPHIC CARDIOMYOPATHY

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Background

Previous studies have demonstrated that female patients with hypertrophic cardiomyopathy (HCM) have a worse prognosis compared to male patients. However, the causality between worse prognosis and gender has not been clarified yet and the older age at the detection of diagnosis has been thought as the explanation of this discrepancy. In this study, we aimed to investigate the impact of gender on structural features and tissue characteristics of HCM patients.

Material/method

We retrospectively investigated the cardiac magnetic resonance (CMR) images and echocardiographic images of patients with a clear diagnosis of HCM. Structural features including left ventricular outflow obstruction, maximal wall thickness, and left chamber volumes were recorded. Tissue characteristics of patients regarding the presence of fibrosis which was decided according to late gadolinium enhancement and extracellular volume derived using T-1 mapping were also recorded. The risk of sudden cardiac death was calculated using the ESC risk calculator.

Results

There were 98 patients with HCM (38 female and 60 male). Female patients were significantly older at first diagnosis (p:0.015). Comorbidities were similar between groups in terms of hypertension (p: 0.073), diabetes (p:0.322) and ischemic stroke(p: 0.998). The most common type of HCM was septal hypertrophy which was similar between groups(p:0.547). There was no significant difference between male and female patients with respect to left ventricular indices including ejection fraction (p:0.280), end-systolic and end-diastolic volume indexes(p:0.421 and p:0.871 respectively) and stroke volume index were also similar between groups. Although troponin levels were similar between groups, pro-BNP levels were significantly higher in female patients (p:0.275 and p:0.012 respectively). Concordant with the similar prevalence of LGE between groups (p: 0.612), the extracellular volume was also comparable (p: 0.432). Native and postcontrast T1 values were also similar between groups(p: 0.125 and p:0.304 respectively) The incidence of left ventricular outflow obstruction was significantly higher in female patients(p: 0.036) and concordant with that functional capacity of female patients was lower(p< 0.001). Moreover, atrial fibrillation was also detected more in female patients(p:0.048). 5-year sudden cardiac death risk during the diagnosis was similar between groups.

Conclusion

Our results indicated that there is no difference in structural or tissue characteristics of HCM patients with respect to gender, however, female patients have worse clinical presentations regarding their functional status. Higher pro-BNP levels and atrial fibrillation prevalence suggest that female patients might have a worse prognosis due to impairment in diastolic dysfunction. Prospective studies with a higher study population and longer follow-ups are needed to clarify the discrepancy in patients' prognosis in HCM patients.

ID: **231**

Topic: **Cardiology > Chronic heart failure**

Presentation Type: **Oral**

# EVALUATION OF THIOL/DISULFIDE HOMEOSTASIS IN HEART FAILURE WITH PRESERVED EJECTION FRACTION PATIENTS

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| **Variables** | **HFpEF (n=42)** | **Control (n=42)** | **P value** |
|---|---|---|---|
| Native thiol (µmol/L) | 393.7 ± 60.9 | 434.5 ± 44.0 | 0.001 |
| Total thiol (µmol/L) | 426.0 ± 64.5 | 476.1 ± 50.4 | < 0.001 |
| Disulphide (µmol/L) | 16.42 ± 8.54 | 20.79 ± 10.66 | 0.041 |
| Disulphide/native thiol (%) | 0.04 ± 0.02 | 0.04 ± 0.02 | 0.325 |
| Disulphide/total thiol (%) | 0.03 ± 0.01 | 0.04 ± 0.02 | 0.355 |
| Native thiol/total thiol (%) | 0.92 ± 0.03 | 0.91 ± 0.04 | 0.255 |
| Erel ferroxidase (U/L) | 547.0 ± 149.3 | 527.7 ± 123.4 | 0.720 |
| Erelima | 67.71 ± 13.08 | 73.73 ± 18.48 | 0.287 |

**Table:Comparison of oxidative stress parameters between patients and control groups**

Background and Aims: It is suggested that myocardial dysfunction in heart failure (HF) patients may result from increased oxidative stress-related membrane changes. Thiol / disulfide homeostasis is a new oxidative stress indicator. The aim of this study was to evaluate serum thiol levels and thiol/disulfide homeostasis in patients with heart failure with preserved ejection fraction (HFpEF).

Materials and Methods: This prospective study included 84 overweight or obese patients who applied to our clinic between November 2016 to February 2018 and diagnosed with hypertension and left ventricule concentric hypertrophy with normal systolic function. Of them, 42 asymptomatic patients who have normal N-terminal B type natriuretic peptide (NT-proBNP) levels (≤125) constituted control group. The remaining 42 patients with HF symptoms and high NT-proBNP levels (>125) constituted the patient group.

Results: The mean age of the patients was 31.3 ± 10.1 years, whereas the mean age of the controls was 32.3 ± 8.8 years. Native thiol, total thiol and disulfide values of the patient group were found to be significantly lower than the control group (p= 0.001, p< 0.001, p= 0.041, respectively). There was a significant negative correlation between native thiol, total thiol values and NT-proBNP and CA-125 values.

Conclusion: In this study, it was found that native, total thiol and disulfide values are low in HFpEF patients and that there is a negative correlation between native, total thiol values and NT-proBNP, CA-125 values. It can be concluded that oxidant/antioxidant balance is impaired in patients with HFpEF and that larger, randomized, prospective studies are needed in order to use oxidant / antioxidant balance in diagnosis and treatment of HFpEF.

ID: **116**

Topic: **Cardiology > Coronary artery disease - CABG surgery**

Presentation Type: **Oral**

# EFFICACY OF PEROPERATIVE USE OF LEVOSIMENDAN IN PATIENTS WITH LEFT VENTRICULAR DYSFUNCTION

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*Manisa Celal Bayar University, Manisa, Turkey*

OBJECTIVE: Levosimendan is a calcium sensitizer agent increasing the sensitivity of the heart to calcium. It enhances cardiac contractility without a rise in intracellular calcium and oxygen consumption. Contradictory results observed in randomized controlled studies made so far, limited the extensive usage of levosimendan. In this study, we evaluated the results of per operative levosimendan use in patients undergoing cardiac surgery with low ejection fraction in our clinic.

METHODS: We screened the patients with low ejection fraction (≤ 40%) undergoing cardiac surgery within the last five years from the hospital records. Emergency cases and cases undergoing multiple cardiac surgery were excluded from the study. We administered 0.1 µg/kg/min levosimendan infusion from beginning 24 hours prior to surgery, intraoperatively and until postoperative 24 hours. Demographic data of the patients, comorbidities, surgical properties and postoperative complications and consequences were evaluated.

RESULTS: There were 52 patients with low ejection fraction who took perioperative levosimendan. The mean age of these was 60±8. The 85% of the patient underwent coronary bypass surgery and 85% of them were male patients. We investigated 30-day mortality. The average postoperative survival time was 25-29 days (lower limit-upper boundaries) in the 95% confidence interval. The estimated 30-day cumulative survival in Kaplan-Meier analysis was 84.6%.

CONCLUSIONS: This study pointed out that perioperative use of levosimendan may be considered for high risked patients with low ejection fraction to improve postoperative mortality and morbidity.

ID: **115**

Topic: **Cardiology > Chronic heart failure**

Presentation Type: **Oral**

# NT-PROBNP VALUES ACCORDING TO BODY MASS INDEX AS A PREDICTOR OF HOSPITALIZATION FOR CHRONIC HEART FAILURE

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OBJECTIVE: Heart failure (HF) patients with a higher body mass index (BMI) have lower NT-proBNP levels compared to normal weight subjects. However, in the diagnosis of HF, NT-proBNP values according to BMI are not clear. We aimed to determine the NT-proBNP values that will predict hospitalization in HF according to BMI.

METHODS: Chronic HF patients aged ≥18 years and LVEF ≤50% followed in the HF outpatient clinic between 2015 and 2020 were included in the retrospective study. Demographic, clinical, laboratory parameters, and hospitalization with HF were evaluated. Patients were compared according to BMI as <25 kg/m², 25-29.99 kg/m², and ≥30 kg/m². NT-proBNP cut-off values, which are predictive of hospitalization according to BMI, were calculated.

RESULTS: 849 patients, 77.9% of whom were male, were included in the study. The median BMI of the patients was 27.4 kg/m² [24.2-31.1]. Those with BMI <25 kg/m² were 32.9%, those with 25-29.99 kg/m² were 36.4%, and those with ≥30 kg/m² were 30.7%. The median value of NT-proBNP in the study population was 1636 ng/L [599-3658]. NT-proBNP value decreased significantly as BMI increased (p<0.001), median 2473 ng/L [1004-5153] in patients <25 kg/m², median 1643 ng/L [643-3736] in patients with 25-29.99 kg/m² and 1060 ng/L [330-2853] at ≥30 kg/m². Within 1 year, 38.6% of the patients were hospitalized due to HF. Hospitalization rates were similar according to BMI (respectively, 43.4%, 35.9%, 36.8%, p=0.137). Those with a BMI <25 kg/m² had a cut-off value of NT-proBNP for hospitalization of 2460 ng/L with a sensitivity of 66% and a specificity of 60% (AUC:0.660,95% CI:0.596-0.723, p<0.001). The cut-off value of those with a BMI of 25-29.99 kg/m² was 1675 ng/L, the sensitivity of this value was 65% and the specificity was 60% (AUC: 0.681, 95% CI: 0.619-0.743, p<0.001). In patients with BMI ≥30 kg/m², the NT-proBNP cut-off value was 1053 ng/L, sensitivity 68%, specificity 60%, positive predictive value 49%, negative predictive value 76% (AUC:0.696, 95% CI:0.631-0.760, p<0.001).

CONCLUSIONS: NT-proBNP values predicting hospitalization in chronic HF decrease as BMI increases. Knowing the cut-off values according to BMI will be useful in the follow-up of chronic HF patients.

**Table 1.** Basal characteristics of the patients according to BMI.

| Variables | BMI <25 kg/m² | BMI 25-29.99 kg/m² | BMI ≥30 kg/m² | P value |
|---|---|---|---|---|
| Age (years) | 65 (57-74) | 63 (54-72) | 61 (52-69) | <0.001 |
| Male, % | 81.4 | 87.7 | 62.5 | <0.001 |
| Ischemic etiology of HF, % | 61.6 | 58.6 | 52.5 | 0.045 |
| Hypertension, % | 48.4 | 50.5 | 65.9 | <0.001 |
| Diabetes, % | 34.1 | 35.9 | 55.2 | <0.001 |
| Systolic blood pressure (mm Hg) | 110 (100-120) | 110 (100-130) | 120 (110-130) | <0.001 |
| Diastolic blood pressure (mm Hg) | 60 (60-70) | 60 (60-80) | 70 (60-80) | <0.001 |
| Heart rate (b.p.m) | 77 (66-88) | 75 (68-85) | 78 (69-87) | 0.31 |
| Atrial fibrillation, % | 20.1 | 20.1 | 17.2 | 0.543 |
| LVEF, % | 30 (20-35) | 30 (25-35) | 30 (25-35) | 0.008 |
| Creatinin (mg/dL) | 1,1 (0,97-1.33) | 1.13 (0.98-1.38) | 1.1 (0.94-1.32) | 0.093 |
| eGFR (mL/min/1,73m²) | 66 (51-81) | 64 (51-81) | 68 (50-81) | 0.858 |
| Sodium (mmol/L) | 138 (136-140) | 139 (137-141) | 139 (137-141) | 0.012 |
| Haemoglobin (g/dL, mean±SD) | 12.9±1.9 | 13.5±1.9 | 13.2±1.8 | <0.001 |
| NT-proBNP (ng/L) | 2473 (1004-5153) | 1643 (643-3736) | 1060 (330-2853) | <0.001 |

BMI, body mass index; HF, heart failure; b.p.m, beats per minute; LVEF, left ventricular ejection fraction; eGFR, estimated glomerular filtration rate; NT-proBNP, N-terminal pro-B-type natriuretic peptide.

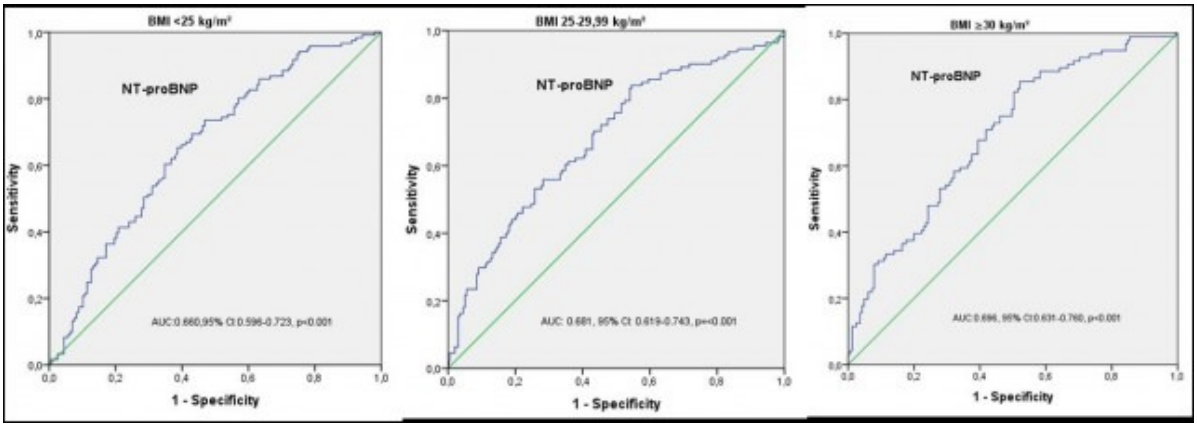


**Figure 1.** ROC curve of NT-proBNP in predicting HF hospitalization according to BMI. (NT-proBNP, N-terminal pro-B-type natriuretic peptide; HF, heart failure; BMI, body mass index)

**Oral Presentation Session**

**New Science and Practices in Imaging**

**Date: 03.12.2022 Time: 14:30-15:30 Hall: 5**

ID: **165**

Topic: **Cardiology > Electrocardiography and non-invasive electrocardiology**

Presentation Type: **Oral**

# LEFT VENTRICULAR MECHANICAL DISPERSION BY SPECKLE TRACKING ECHOCARDIOGRAPHY IS A PREDICTOR OF AV-BLOCK AFTER TRANSCATHETER AORTIC VALVE IMPLANTATION

**Esra KAYA**

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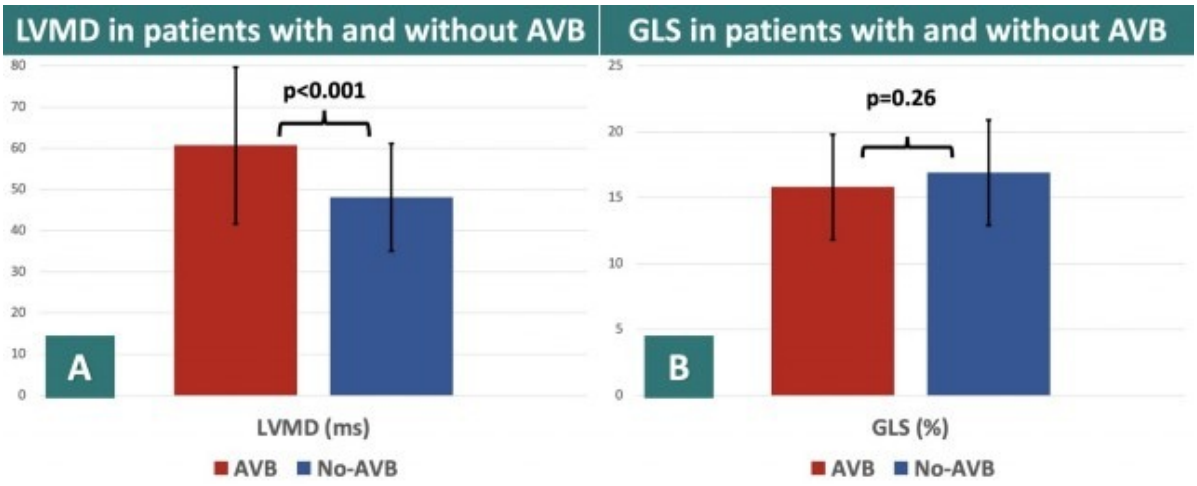
Background: Atrioventricular block (AVB) necessitating permanent pacemaker (PM) implantation, is a common complication of Transcatheter Aortic Valve Implantation (TAVI). Direct mechanical effect, electrical disturbances and myocardial fibrosis are proposed mechanisms for AVB after TAVI. Left ventricular mechanical dispersion (LVMD) by Speckle Tracking Echocardiography is an index of contraction heterogeneity and a marker of myocardial fibrosis. We aimed to evaluate the association between LVMD,QRS duration and risk of AVB after TAVI.

Methods: In 163 consecutive patients, echocardiograms and electrocardiograms were recorded the day before TAVI to assess global longitudinal strain (GLS), LVMD and QRS duration. PM implantation information was obtained after 3 months. Patients were stratified into AVB and No-AVB groups.

Results: Ten patients were excluded due to poor image quality. Mean age was 80±7 years and 45% were female. Within 3 months after TAVI, 16% of the patients received PM. GLS and QRS duration was not different between AVB group and No-AVB group (-15.8±4.5% vs -16.9±4.4%, p=0.26 and 107±31ms vs 102±18ms, p=0.24 respectively). LVMD was prolonged in patients with AVB compared to patients in No-AVB group (60±19ms vs 48±13ms, p<0.001) (Figure). LVMD predicted AVB after TAVI with area under the curve 0.71. LVMD predicted AVB independently of QRS duration (odds ratio 1.68; 95% confidence interval 1.23-2.3; p=0.001 by 10ms increments) (Table).




**Logistic Regression Analysis showing the outcome of AVB in patients after TAVI**

| | Univariate | | | Multivariate | | |
|---|---|---|---|---|---|---|
| | OR | 95%CI | P value | OR | 95%CI | P value |
| **QRS-duration, 10 ms** | 1.13 | 0.91-1.3 | 0.24 | 1.08 | 0.86-1.3 | 0.47 |
| **GLS, %** | 1.05 | 0.95-1.16 | 0.26 | | | |
| **LVMD, 10 ms** | 1.62 | 1.21-2.16 | **0.001** | 1.68 | 1.23-2.3 | **0.001** |

GLS:Global longitudinal strain, LVMD: Left ventricular mechanical dispersion

Conclusion: LVMD predicted AVB after TAVI independent of QRS duration. LVMD may be a myocardial functional echocardiographic predictor of this important and frequent complication of TAVI.

ID: **105**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# STRAIN IMAGING IN MANAGEMENT OF EOSINOPHILIC MYOCARDITIS

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Strain imaging in management of Eosinophilic Myocarditis

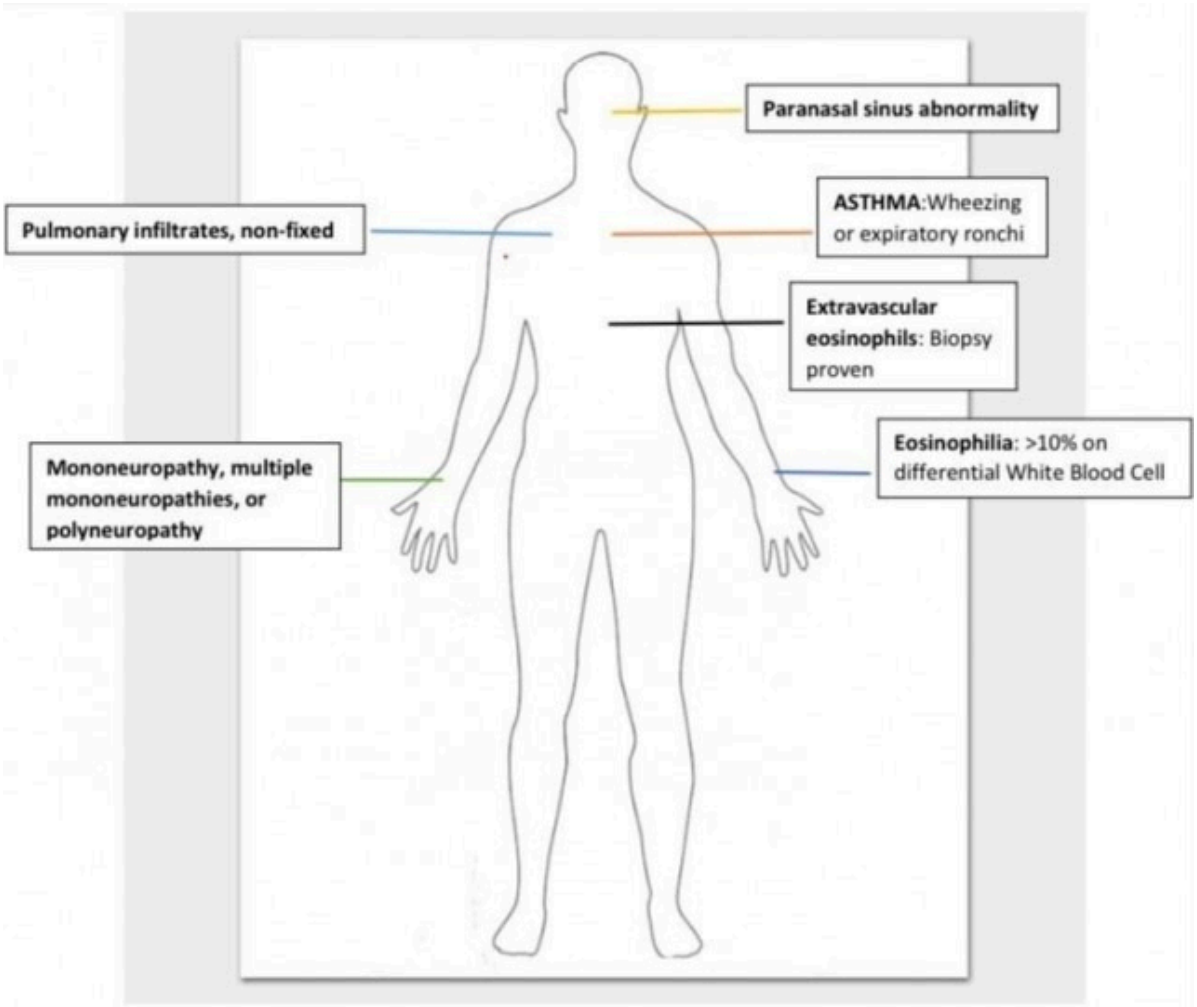
BACKGROUND

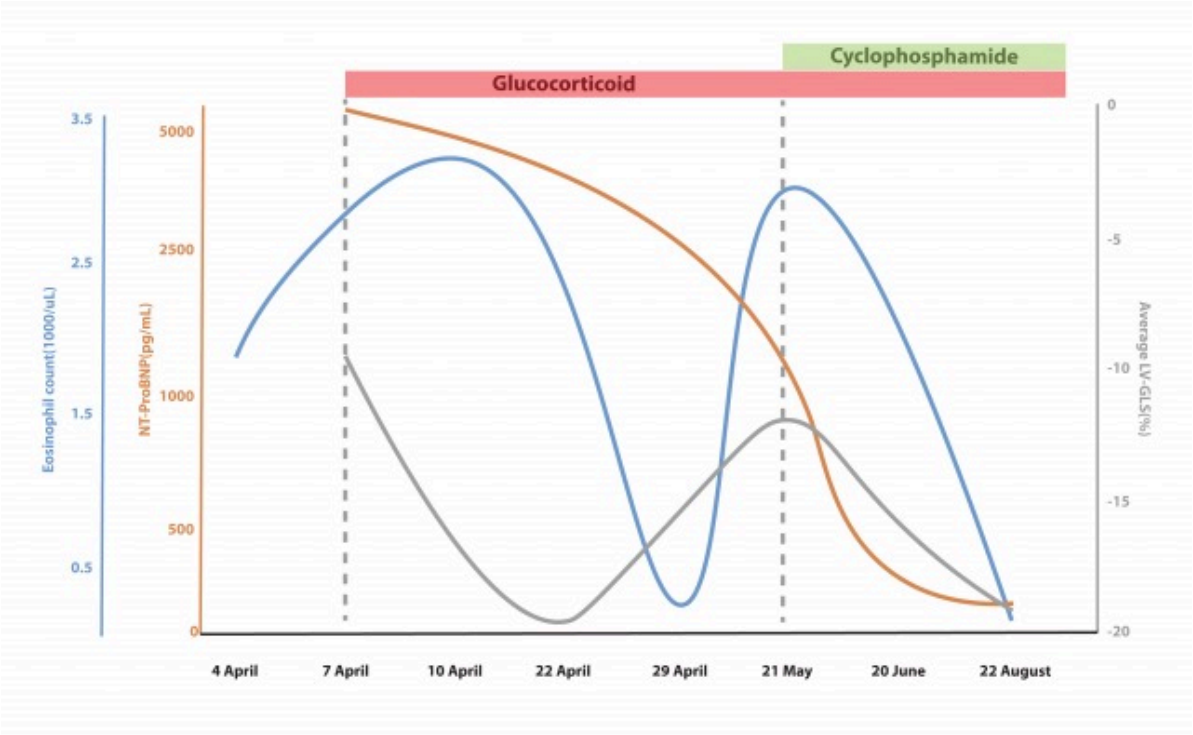
We introduce the case of a 25-years-old female patient with a history of allergic asthma, presenting with chest paint. Cardiac biomarkers were elevated. Strain imaging and cardiac magnetic resonance imaging demonstrated cardiac involvement as well, and she was diagnosed with myopericarditis. Given the hypereosinophilia and clinical correlation, she was diagnosed with Eosinophilic Granulomatosis with Polyangiitis (EGPA). The myopericarditis was considered to be linked to EGPA. After low dose corticosteroid and cyclophosphamide administration, biomarkers and strain imaging demonstrated the recovery.

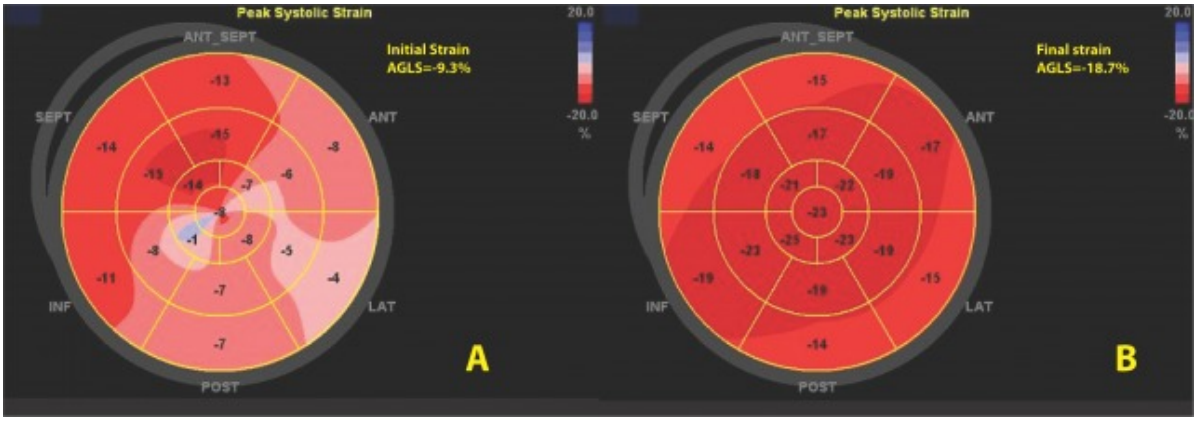
CASE PRESENTATION

25 years-old female patient admitted to emergency room with chest pain. Medical history of the patient was remarkable with allergic rhinitis, and allergic asthma accompanied by migratory pulmonary infiltrates which was treated with methylprednisolone, budesonide and salbutamol. Laboratory investigations at that time demonstrated an total Immunoglobulin E (IgE) value of 222.2 IU/mL. Vitals were within normal limits with a blood pressure of 124/78mmHg, heart rate of 77bpm. Arterial oxygen concentration was 98% at room air. ECG demonstrated diffuse precordial ST depressions. Her Troponin I level was elevated at 7.836 ng/mL(URL=0.0156). Complete blood count demonstrated hypereosinophilia (2,87x$10^3$/µl). Echocardiography was remarkable with pericardial effusion limited to posterobasal segments and depressed LV global longitudinal strain with impaired strain mainly in posterior and posterolateral segments. Cardiac magnetic resonance imaging demonstrated normal ejection fraction (LVEF=52%), subepicardial and midmyocardial late gadolinum enhancement in the inferior and inferolateral walls in basal and mid segments, and minimal myocardial edema. LV was free of thrombus. Coronary angiogram demonstrated normal coronary arteries. With the preliminary diagnosis of eosinophilic myocarditis, the patient was consulted with rheumatology. p-ANCA and c-ANCA were negative and rheumatoid factor(RF) was positive (85.1 IU/mL). Electromyography demonstrated no abnormalities. Paranasal sinus computed tomography (CT) demonstrated frontal sinusitis. The patient satisfied the diagnostic criteria for EGPA(Figure-1). Endomyocardial biopsy was not performed due to high risk of the procedure and the fact that the diagnosis was already made according to validated criteria. Low dose corticosteroid was started and titrated up to 1mg/kg. Besides low dose corticosterioid administration, carvedilol 6,25 mg 2x1 and acetylsalicyclic acid 81 mg were started.

One month later, due to incomplete remission in myopericarditis shown by strain imaging, patient was started on cyclophosphamide and administered as 500 mg once in a moth. Follow-up echocardiography at 6-months showed complete recovery in GLS with resolution of pericardial effusion. Regular follow-ups with NT-ProBNP, strain imaging and eosinophil counts demonstrated relapsing-remitting nature of the disease and complete remission with cyclophosphamide.(Figure-2, Figure-3)




Cyclophosphamide
Glucocorticoid
Eosinophil count(1000/uL)
NT-ProBNP(pg/mL)
Average LV-GLS(%)
3.5
2.5
1.5
0.5
5000
2500
1000
500
0
0
-5
-10
-15
-20
4 April
7 April
10 April
22 April
29 April
21 May
20 June
22 August


Peak Systolic Strain
Initial Strain
AGLS=-9.3%
ANT_SEPT
SEPT
ANT
INF
LAT
POST
20.0
-20.0
%
A
Peak Systolic Strain
Final strain
AGLS=-18.7%
ANT_SEPT
SEPT
ANT
INF
LAT
POST
20.0
-20.0
%
B

Topic: ID: **272**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# Patent Foramen Ovale: A Practical and Imaging Based Morphological Classification

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Objectives: Patent foramen ovale (PFO) has been implicated in cryptogenic stroke, transient ischemic attacks, migraine with auras, decompression sickness and severe refractory hypoxemia. Recently published data provided sufficient evidence for the percutaneous closure of PFO in the embolic stroke of an undetermined source. After a suspicion for a paradoxical cerebral embolism, a transthoracic echocardiography, transcranial doppler study, and transesophageal echocardiography using contrast bubble injection are indicated. Detection of PFO is possible during contrast bubble injection with or without Valsalva maneuver in transesophageal echocardiography. Three- or two-dimensional transesophageal echocardiography (TEE) give opportunity to obtain detailed information about complex anatomical variations in PFO morphologies including atrial septal aneurysm, large tunnel, increased height of PFO, lipomatous hypertrophy. Ideal device selection is important for the appropriate closure of PFO. A standardized classification is needed to define PFO morphologies when selecting the device size. In our study, we aimed to create a common language for different and high-risk morphologies with two-dimensional (2D) and three-dimensional (3D) TEE in patients with cryptogenic stroke that would be helpful in transcatheter PFO closure. Materials and Methods: One hundred eleven one patients with the diagnosis of cryptogenic stroke and with high “The Risk of Paradoxical Embolism” (RoPE) score (>7) were included in the study. From the recorded images, interatrial septum was evaluated retrospectively with 2D and 3D TEE. Also, transcranial doppler, contrast bubble injection in TEE, 12-lead electrocardiography was performed. The amount of shunting during bubble study was recorded. According to analysis with 2D and 3D TEE technique, we classified the subtypes of different PFO morphologies into two main types and subgroups according to atrial septal aneurysm

Results: 2D and 3D transesophageal echocardiography was applied to all patients before and during the PFO closure procedure. The amount of shunting was severe in 64 patients (57.7%) patients. PFO tunnel was found to be spontaneously open in 64 patients. Most of patients had long PFO tunnel and mean tunnel length was 11.47±2.26 mm. The mean atrial septal defect (ASD) size accompanying PFO was 3.17±1.64 mm (large ASD). There were atrial septal defects accompanying PFO in 28 (25.2 %) patients. The mean of opening length of PFO (height of PFO) which can induce severe shunting was 4.06±1.6 mm. Atrial septal aneurysm was existed in 22 (19.8 %) patients. The total amount of other then simple morphologies which carry high risk features were higher. We found that the most frequent device selected by the operator was multi-fenestrated septal occluder (cribriform). The multi-fenestrated septal occluder devices were implanted in 69.4% of patients. The more complex anatomy led the operator for to choose mostly multi-fenestrated devices.

Conclusion: After defining PFO morphologies and categorizing the different types, we would be able to express the same morphological classification which could be easily and repetitively used. With the usage of a well-known classification, device type selection could be standardized for optimization of percutaneous transcatheter closure of PFO while minimizing the complications and increasing procedural success

ID: **177**

Topic: **Cardiovascular Surgery > Thoracic aortic aneurysm and dissection**

Presentation Type: **Oral**

# THE EXPERT SYSTEM

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[2]*Saint Petersburg State University Hospital, , Russia*

BACKGROUND

An aortic aneurysm is an extremely dangerous condition that can cause dissection or rupture of the aorta and in most cases requires surgical intervention. The scope of reconstruction in the presence of changes in the root, the tubular part of the ascending part and the aortic arch is also discussed. For routine operations on the thoracic aorta in the clinic, a specialized "Aortic team" is required. The presence of a team allows you to perform the most complex reconstructive operations. However, in emergency situations, it is not always possible to use this option. Thus, one of the solutions to this problem is the use of an expert system based on neural network technologies. The aim of study is presentation of the concept of using an expert system in decision-making during the diagnosis and treatment of patients with aortic pathology.

METHODS

At the moment, work is continuing on the development of the expert system "Second Opinion". Cardiac surgeons and programmers of our team participate in the development. The system is based on the use of artificial intelligence and the analysis of a Big Data, including gender and age, anthropometry, clinical indicators, computed tomography of the aorta and echocardiography. The main technology used for analysis is machine vision and learning. For the analysis of aortic images, both data from ready-made datasets and data from computed tomography of the aorta of selected patients are used.

RESULTS

The team of cardiac surgeons and programmers has been assembled to select patients, analyze data and develop an expert system. At the moment, 9 test models of neural networks have been developed. The project has received state support at the highest level and continues to develop.

CONCLUSIONS

The widespread use of artificial intelligence in cardiac surgery is just beginning. However, our team is one of the leaders in this direction in the world.

ID: **110**

Topic: **Cardiology > Cardiac imaging - Cardiac MRI**

Presentation Type: **Oral**

# COMPARISON OF TAPSE AND MAPSE VALUES WITH AGE, GENDER AND BSA IN PATIENTS WITH NORMAL CARDIAC MRI: SINGLE CENTER EXPERIENCE

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[2]*Medical Park Antalya Hospital, Antalya, Turkey*

Introduction:

The use of cardiac magnetic resonance imaging (CMRI) is increasing year by year and is recommended as the “gold standard” diagnostic test for many cardiovascular diseases. In this study, we investigated the relationship of TAPSE and MAPSE values with age, gender, and body surface area (BSA) in our patients who were referred for CMRI with various pre-diagnoses but had completely normal findings.

Materail and Method:

Our study includes 27 patients who applied to the cardiology outpatient clinic of our hospital or external centers with CMRI request and whose cardiac MRI results were found to be completely normal. Demographic characteristics of these patients and CMRI findings were recorded retrospectively from the database of the hospital system.

Statistical analysis

Statistical analysis was performed using SPSS Statistics for Windows, 24.0 (SPSS Inc., Chicago, Ill., USA). The conformity of BSA, age, MAPSE and TAPSE variables to normal distribution was evaluated using Kolmogorov-Smirnov/Shapiro-Wilk tests. Descriptive statistics; mean ± standard deviation and ratio (%) for normally distributed variables (BSA and age), and non-normally distributed variables (MAPSE and TAPSE) using interquartile range and median. Since the BSA and age variables were normally distributed, the relationship with the nominal gender variable was compared with an independent sample t-test. Since MAPSE and TAPSE was not consistant with the normal distribution, the relationship with the gender variable was evaluated using the Mann-Whitney U test. Since at least one numerical variable (BSA, Age, MAPSE and TAPSE) did not show normal distribution, the correlation between these variables was calculated by Spearman's test. Statistical significance level is set to $p<0.05$

Results:

14 male (51.9%) and 13 female (48.1%) patients were included in the study. The mean age of the patients was 35.88±11.78 (min=17; max=65) and the mean body surface area (BSA) was calculated as 1.96±0.22m2

(min=1.60m2; max=2.55m2) .The data of patients with normal CMR images are given in the table below.

**Tablo 1:** Cardiac MRI findings of the patients

| | N | Aralık | Min. | Max. | Ort. | S.S. | Varyans |
|---|---|---|---|---|---|---|---|
| **LVEF** | 27 | 14,00 | 58,00 | 72,00 | 62,62 | 3,20 | 10,242 |
| **RVEF** | | 19,00 | 52,00 | 71,00 | 59,77 | 5,33 | 28,410 |
| **LVEDD** | | 14,00 | 41,00 | 55,00 | 47,92 | 4,15 | 17,302 |
| **LVESD** | | 15,00 | 26,00 | 41,00 | 33,03 | 3,68 | 13,575 |
| **LA** | | 14,00 | 15,00 | 29,00 | 20,74 | 3,53 | 12,507 |
| **RA** | | 29,00 | 1,00 | 30,00 | 18,55 | 5,18 | 26,872 |
| **LVEDVI** | | 45,00 | 48,00 | 93,00 | 74,96 | 11,61 | 134,806 |
| **LVESVI** | | 28,00 | 17,00 | 45,00 | 28,44 | 6,13 | 37,641 |
| **RVEDV** | | 54,00 | 42,00 | 96,00 | 74,00 | 14,87 | 221,308 |
| **RVESV** | | 28,00 | 15,00 | 43,00 | 30,03 | 8,26 | 68,345 |
| **TAPSE** | | 16,00 | 13,00 | 29,00 | 20,67 | 3,97 | 15,831 |
| **MAPSE** | | 8,70 | 10,00 | 18,70 | 14,10 | 2,06 | 4,269 |

When the mean MAPSE and TAPSE and gender of the patients were compared with the Mann-Whitney U test, it was seen that there was no significant difference according to gender in both values (p>0.05).

Similarly; when the correlation between age, BSA, MAPSE and TAPSE values was evaluated with Spearman's test, no significant correlation was found between any of these four variables as seen in the table below (p>0.001). (Table 2)

Tablo 2 :

| | | | Yaş | BSA | TAPSE | MAPSE |
|---|---|---|---|---|---|---|
| Spearman's rho | Yaş | Correlation Coefficient | 1 | | | |
| | | Sig. (2-tailed) | - | | | |
| | BSA | Correlation Coefficient | 0,188 | 1 | | |
| | | Sig. (2-tailed) | 0,347 | - | | |
| | TAPSE | Correlation Coefficient | -0,155 | -0,124 | 1 | |
| | | Sig. (2-tailed) | 0,440 | 0,536 | - | |
| | MAPSE | Correlation Coefficient | -0,340 | -0,190 | -0,202 | 1 |
| | | Sig. (2-tailed) | 0,083 | 0,341 | 0,311 | - |

Discussion:

CMRI is an important cardiac imaging method that has been inemerged in the diagnosis of many diseases in recent years. However, in our country, it is generally requested in selected patients for the differential diagnosis or confirmation of pathologies detected in echocardiography, since most centers do not have sufficient facilities for scanning(lack of machines, radiology tecnicians etc.) and interpretation(lack of trained radiologists and cardiologists). For this reason, the number of patients with normal cardiac MRI results is low even in our hospital, which is a high volume center for CMRI. In 27 individuals, there was no significant difference in the relationship of TAPSE and MAPSE values which are practical to examine. TAPSE is a simple and widely used method for echocardiographic assessment of RV systolic function . TAPSE has been validated as a good surrogate of RV function in multiple MRI and 3D echocardiographic studies including a recent MRI study by Dirk et al which showed a good correlation between TAPSE and RV ejection fraction and MAPSE also correlates well with LV systolic function

According to the findings of our study, TAPSE and MAPSE values are reproducible and easy to obtain in cardiac MRI, consistent with echocardiographic studies, and do not change according to age, BSA and gender. Further studies with larger patient groups are needed for better understanding of these relationships in CMR.

ID: **39**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Oral**

# MAY LONGITUDINAL DIASTOLIC STRAIN RATE PREDICT PREMATURE VENTRICULAR COMPLEX-INDUCED CARDIOMYOPATHY?

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[2]*Zile State Hospital, Tokat, Turkey*

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OBJECTİVE

An increased premature ventricular complex (PVC) frequency is associated with a higher risk of PVC-induced cardiomyopathy. Although there are many studies on left ventricular systolic functions in this patient group, it is not clear how left ventricular diastolic functions are affected. In this study, we aimed to investigate how left ventricular diastolic functions are affected in patients with PVC using diastolic strain rate.

METHODS

The study included 57 patients with frequent PVCs and 54 healthy volunteers as a control group. A comprehensive echocardiographic examination was done. The vendor-independent software system (EchoPAC version 202) was used to calculate systolic and diastolic strain parameters by using two dimensional (2D) speckle tracking analysis. Global longitudinal strain (GLS) was determined from the apical 4-chamber, apical 2-chamber, and apical long axis utilizing the auto strain 3P semi-automated endocardial boundary tracking tool. The diastolic strain rate was determined using an average of the 17 myocardial segments during two distinct phases of diastole.

RESULTS

Early diastolic strain rate (SRe) was significantly decreased in the patient group (1.62 ± 0.58 vs.1.25 ± 0.38, p< 0.001). Late diastolic strain rate (SRa) was increased in the patient group (0.90 ± 0.24 vs 0.99 ± 0.28, p =0.043). A significant negative correlation was observed between QRS duration and Sre, and a significant positive correlation was observed between coupling interval and Sre. (p<0,001, p<0,001 respectively)

CONCLUSİONS

Patients with PVC exhibited a lower longitudinal early diastolic strain rate than healthy individuals. Longitudinal early diastolic strain rate measurements may be used to predict the LV diastolic dysfunction and patients with PVC may have increased LV diastolic dysfunction risk compared to normal population.

| | Control Group (n=54) | Patient Group (n=54) | p value |
|---|---|---|---|
| LV-LS 4 chamber (%) | -18.41 ± 1.81 | -18.18 ± 1.68 | 0.864 |
| LV-LS 2 chamber (%) | -20.43 ± 2.86 | -19.45 ± 2.36 | 0.197 |
| LV-LS 3 chamber (%) | -18.74 ± 2.67 | -17.94 ± 2.63 | 0.098 |
| LV-GLS (%) | -19.24 ± 2.07 | -18.46 ± 1.73 | 0.119 |
| SRe (/s) | 1.62 ± 0.58 | 1.25 ± 0.38 | **<0.001** |
| SRa (/s) | 0.90 ± 0.24 | 0.99 ± 0.28 | **0.043** |
| SRs (/s) | 0.48 ± 1.09 | 1.01 ± 0.33 | 0.107 |
| LVEDV (mL) | 94.36 ± 27.88 | 98.42 ± 21.74 | 0.142 |
| LVESV (mL) | 37.09 ± 11.94 | 41.12 ± 11.83 | 0.061 |
| LVEF (%) | 60.04 ± 3.25 | 59.19 ± 3.83 | 0.104 |
| LAV max index (LA maximum volume/BMI) | 21.36 ± 5.05 | 24.75 ± 6.02 | **0.002** |
| | **Probable Left Ventricle Origin (n=11)** | **Probable Right Ventricle Origin (n=46)** | **p value** |
| SRe (/s) | 1.73 ± 0.27 | 1.14 ± 0.31 | **<0.001** |
| SRa (/s) | 1.02 ± 0.25 | 0.98 ± 0.30 | 0.655 |
| SRs (/s) | 1.02 ± 0.12 | 1.01 ± 0.36 | 0.675 |
| | **Probable Endocardial Origin (n=21)** | **Probable Epicardial Origin (n=37)** | **p value** |
| SRe (/s) | 1.54 ± 0.31 | 1.07 ± 0.30 | **<0.001** |
| SRa (/s) | 0.95 ± 0.29 | 1.01 ± 0.28 | 0.410 |
| SRs (/s) | 1.02 ± 0.20 | 1.00 ± 0.39 | 0.441 |

| **QRS duration** | | |
|---|---|---|
| | **Correlation coefficient** | **p value** |
| SRe (/s) | -0.911 | **<0.001** |
| SRa (/s) | 0.306 | 0.306 |
| SRs (/s) | 0.003 | 0.977 |
| **Coupling interval** | | |
| | **Correlation coefficient** | **p value** |
| SRe (/s) | 0.959 | **<0.001** |
| SRa (/s) | 0.064 | 0.508 |
| SRs (/s) | -0.006 | 0.950 |

LV, left ventricle; LS, longitudinal strain; GLS, global longitudinal strain; SRe, early diastolic strain rate; SRa, late diastolic strain rate; SRs, systolic strain rate; LVEDV, left ventricular end-diastolic volume; LVESV, left ventricular end-systolic volume; EF, ejection fraction; LAV; left atrial volume

**Oral Presentation Session**

**New Ideas In Surgery For Peripheral Venous Diseases**

**Date: 03.12.2022 Time: 15:45-16:45 Hall: 5**

ID: **144**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Oral**

# LIPECTOMY EXPERIENCE IN ARTERIOVENOUS FISTULA CREATION FOR OBESE PATIENTS

**Bahadır AYTEKIN**

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Objective:

The number of obese patients suffering from the end-stage renal disease is increasing continuously. Having excessive adipose tissue overlapping the vein causes vascular access losses and difficulties on cannulation in obese patients. Lipectomy as a simultaneous operation with arteriovenous (AV) fistula creation is one of the choices to accomplish this problem. The present study examined to assess the feasibility of one-stage AV fistula creation and lipectomy.

Methods:

The present retrospective study included 14 patients with a body mass index (BMI) greater than 30 kg/m² and cephalic veins dept more than 6 mm between September 2019 and June 2021 for AV fistula creation. We performed AV fistula creation and lipectomy simultaneously. First, AV fistula was created under local anesthesia at an appropriate site. Subsequently, lipectomy was performed far away at least 8-10 cm from the anastomosis via a 2 cm transverse skin incision along the cephalic vein tracing marked preoperatively using doppler ultrasonography (Figure 1). The followed-up-data of the patients on the 1st and 6th months after the operation were analyzed.

Results:

All the patients were women. The mean age of the patients was 52,07± 8,22 years (range: 42–68 years) and the mean body-mass index was 35,14 kg/m² (32,3–39,6 kg/m²). The mean vein depth decreased from 11,71±3,45 mm to 4,28±0,52 mm after the procedure. Postoperatively, the mean vein diameter increased from 3,65±0,72 mm to 5,88±1,02 mm. In postoperative first month, the mean vein diameter was 8,19±1,32 mm (Table 1). The primary and secondary patency rate was 100% in 6 months.

Conclusions:

Lipectomy performing simultaneously to AV fistula creation in obese patients is an effective and safe option to

aids easy and early cannulation with a successful primary patency.

Key Words: lipectomy, arteriovenous fistula, obese patients

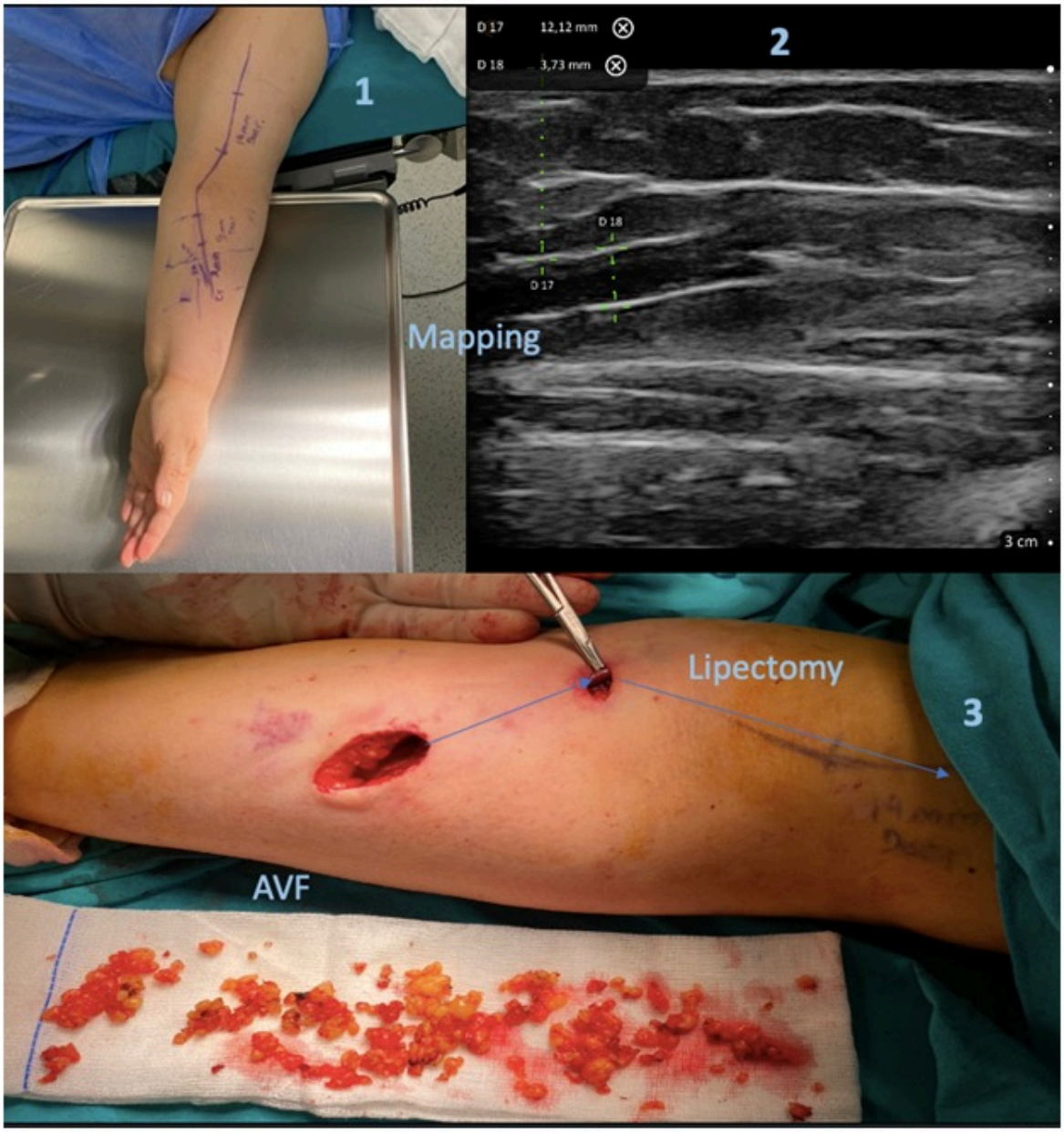


**Figure 1: Preoperative mapping and marking the vein using doppler ultrasonography (1-2), lipectomy after AVF creation via 2 cm skin incision (3).**

**Table 1: Preoperative and postoperative features and measurements**

| No. | Age (years) | BMI ($kg/m^2$) | Vein Depth (mm) | | Vein Diameter(mm) | | |
|---|---|---|---|---|---|---|---|
| | | | Preoperative | Postoperative 1 month | Preoperative | Postoperative 0 day | Postoperative 1 month |
| **1** | 52 | 32,8 | 8 | 3,2 | 2,6 | 4,42 | 6,18 |
| **2** | 46 | 35 | 10 | 4 | 3,1 | 5,27 | 7,37 |
| **3** | 60 | 33,6 | 9 | 4,6 | 3,3 | 4,76 | 6,72 |
| **4** | 48 | 36 | 11 | 4,5 | 4 | 6,8 | 9,46 |
| **5** | 46 | 36,2 | 12 | 4,7 | 3,7 | 6,3 | 8,8 |
| **6** | 54 | 38 | 15 | 5 | 4,6 | 6,9 | 9,68 |
| **7** | 65 | 39,6 | 15 | 4,7 | 4,8 | 7,1 | 9,64 |
| **8** | 68 | 32,3 | 8 | 3,8 | 2,8 | 4,2 | 6,18 |
| **9** | 42 | 34,5 | 11 | 4,2 | 3,3 | 5,61 | 7,83 |
| **10** | 55 | 34 | 9 | 4,3 | 3,1 | 5,27 | 7,39 |
| **11** | 44 | 37 | 16 | 4,8 | 4,5 | 7 | 9,6 |
| **12** | 58 | 36,3 | 19 | 4,7 | 4,6 | 7,2 | 9,8 |
| **13** | 47 | 33 | 8 | 3,8 | 3,3 | 5,61 | 7,85 |
| **14** | 44 | 33,7 | 13 | 3,7 | 3,5 | 6 | 8,2 |
| **Mean ±SD** | 52,07±8,22 | 35,14±2,13 | 11,71±3,45 | 4,28±0,52 | 3,65±0,72 | 5,88±1,02 | 8,19±1,32 |

**SD: Standard Deviation, BMI: Body Mass Index**

ID: **164**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Oral**

# OBLIQUE SKIN INCISION VERSUS CONVENTIONAL STRAIGHT SKIN INCISION IN ARTERIOVENOUS FISTULA CREATION; THE IMPACTS ON THE POSTOPERATIVE OUTCOMES

**Gökay DENIZ**

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Objective:

Skin incision types could alter arteriovenous (AV) fistulas' patency, maturation, and outcomes. Oblique skin incision could provide some advantages for preventing early AV fistula failure, stretched skin, and increased pressure on the new anastomosis. The study aims to compare the results of both oblique and straight skin incision types within early postoperative periods.

Methods:

From 2020 to 2022, all patients with created AV fistula via antebrachial vessels with oblique and straight skin incisions were enrolled (Figure 1). Retrospectively, the patients' demographics and comorbidities were collated from the hospital data. All patients were operated on with local anesthesia for radiocephalic AV fistula creation. The features of the vessels were achieved from the preoperative doppler ultrasonography mapping. Primary and secondary patency, early stenosis, and thrombosis were assessed.

Results:

A total of 129 patients were operated on for AV fistula creation. The mean age was 60 ±11 years, and there was a male predominance of %70. We performed 59 patients' AVF creation via straight skin incision and 70 via oblique skin incision. Despite no difference in comorbidities and demographical features between both groups, a higher incidence of early thrombosis and maturation failure was lined in straight skin incisions (p= 0,04, p=0,04; respectively).

Conclusion:

An oblique skin incision could be a feasible alternative to the conventional straight incision with a higher early AVF patency and lower thrombosis rates. Reducing the pressure and keeping the incision from the new anastomosis could be the key to better outcomes.

Key Words: Oblique skin incision, Arteriovenous fistula creation


*Figure 1: Incision types for AV fistula creation; stretched skin due to conventional straight skin incision could cause early thrombosis and maturation failure with increased tissue edema (at the left); an oblique skin incision, a little far from anastomosis area, could provide a little better result (at the right).*

ID: **34**

Topic: **Cardiovascular Surgery > Varices & DVT**

Presentation Type: **Oral**

# A RARE CASE : PELVIC CONGESTION SYNDROME

**Sefer USTA**

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Pelvic congestion syndrome is a type of disease that is usually seen in women and can be confused with many diseases during the diagnosis process, so the diagnosis can be missed. In this case, I also wanted to emphasize that this syndrome can imitate venous insufficiency symptoms and can coexist, by presenting a case who was followed up and treated in the cardiovascular surgery clinic due to superficial saphenous vein insufficiency, but whose clinical findings did not relieve despite all treatments.

A 36-year-old female patient applied to our outpatient clinic with complaints of venous insufficiency. There was a grade 3 vena saphena manga (VSM) insufficiency in the Doppler ultrasonography (USG). Left VSM was operated with radiofrequency ablation method. The patient presented with the same clinical complaints nine months later. Doppler USG revealed that the VSM was occluded, but there was grade 4 insufficiency in the vena saphena parva (VSP) and mild insufficiency in the main femoral vein. The patient's VSP was ligated and venoprotective medication was started for major femoral vein insufficiency. The patient reapplied six months later with increased complaints. In addition to her complaints, she also had abdominal pain. The edema in his legs increased. This time, percutan sealing agent was applied to the main femoral vein around the main femoral vein to narrow the valve (valvular sealing reconstruction system). Abdominal and peripheral vascular ultrasonography and tomography were applied to the patient and no other pathology was detected.

ID: **182**

Topic: **Cardiovascular Surgery > Peripheral artery disease and treatment**

Presentation Type: **Oral**

# CURRENT TREATMENT OF PERIPHERALLY INFECTED WOUNDS: OUR VAC EXPERIENCES

**Mustafa DAĞLI**

*cardiovascular surgery, konya, Turkey*

Current Treatment of Peripherally Infected Wounds: Our VAC Experiences

Objective: Wound infections are conditions that pose a serious risk in terms of prolonged hospitalization, morbidity and mortality. The risk increases even more in the presence of diseases such as peripheral artery disease and DM. While dressing is the first choice of treatment options, it further extends the length of stay. It is possible to achieve successful results with VAC therapy. In this study, we share the results of peripheral VAC application in our clinic.

Method: 24 patients who underwent peripheral localized VAC application in our hospital between 2020-2022 were included in the study. Patient data were reviewed retrospectively. VAC applications for mediastinitis were excluded from the study. After culture growth in the patients followed up with wound infection, antibiotic therapy compatible with the antibiogram was started and VAC treatment was started.
The VAC system was changed at one-week intervals until the culture was clear. After the VAC system was removed, the wound was closed primarily. When necessary, the wound was closed using a skin flap.

Results: Of the 24 patients who participated in the study, 14 (58%) were male and 10 were female (42%). The mean age of the patients was 67.9 years. The mean hospital stay of the patients was 14.1 days. Wound infections developed after interventions for femoral pseudoaneurysm were the most common in these patients.
Bacteria such as E. Coli, Klebsiella, Pseudomonas, S. Maltophilia are some of the agents isolated from wound sites. The mean number of VAC changes was 3.9 times. DM was found in the first rank (71%) among comorbidities. Two of the patients were discharged with skin graft application by plastic surgery after VAC applications. There was no mortal patient.

ID: **241**

Topic: **Cardiovascular Surgery > Varices & DVT**

Presentation Type: **Oral**

# 5-YEAR CLINICAL RESULTS OF 1073 PATIENTS WITH VARICOSE VEINS TREATED USING RADIOFREQUENCY ABLATION, ENDOVENOUS LASER ABLATION AND CYANOACRYLATE EMBOLIZATION

Cem ATIK[1], Ozerdem OZCALISKAN[2]

[1]*Osmaniye Yeni Hayat Hospital, Osmaniye, Turkey*

[2]*Mersin Yenişehir Hospital, Mersin, Turkey*

Objective: Examined the clinical results of RFA, EVLA and CAE to evaluate the efficacy of varicose veins treatment modalities.
Methods: This retrospective study presented the outcomes of the procedures performed in our cardiovascular surgery clinic. The study population consisted of patients who were diagnosed with chronic venous insufficiency (CVI) and underwent endovenous varicose veins treatment between February 2011 and April 2016. The sample consisted of 1073 patients who underwent CAE (n=431), RFA (n=230), and EVLA (n=412).No patients underwent bilateral EVLA, RFA, or CAE at the same session.

Results: The majority of the patients were women (79.59%). Most patients belonged to CEAP 2 and CEAP 3 classes (84.72%). The EVLA, RFA, and CAE groups had a mean 1-year occlusion rate of 97.57%, 98.26%, and 95.59%, respectively. There was no significant difference ($p \geq 0.05$) in pre- and post-procedure VCSS scores between the groups. All groups had the most complications in the first month. There was a significant reduction in complications over time in all groups. None of the patients developed complications in the fifth year. Pain, paresthesia, ecchymosis, pigmentation, induration, burn, DVT, and phlebitis were significantly more common in the EVLA group. The complications were least common in the CAE group.

Conclusions: CAE, RFA, and EVLA have similar long-term results. Due to better early and long-term results, CAE is recommended for CVI patients who want to get rid of varicose veins and improve their quality of life.

**Oral Presentation Session**

**New Ideas and Observations in Interventional Cardiology**

**Date: 03.12.2022 Time: 17:00-18:00 Hall: 5**

ID: **275**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# MONOCYTE HIGH-DENSITY LIPOPROTEIN CHOLESTEROL RATIO AND CORONARY COLLATERAL CIRCULATION DEVELOPMENT IN PATIENTS WITH STABLE CORONARY ARTERY DISEASE AND NO HISTORY OF REVASCULARIZATION

**Sinan VAROL**

*Bagcilar Training and Research Hospital, Istanbul, Turkey*

INTRODUCTION: In patients with chronic total occlusion (CTO), various degrees of coronary collateral circulation (CCC) can be seen. No clinical study was conducted for the relationship between Monocyte/HDL cholesterol ratio (MHR) and the development of CCC.

METHODS: Among 17,391 angiographic procedures were analyzed. Patients who had a history of acute coronary syndrome, myocardial infarction, percutaneous coronary intervention (PCI) or coronary artery bypass graft (CABG) procedure were excluded. 217 patients with CTO were retrospectively analyzed. The Cohen-Rentrop classification was used for retrograde CCC score.
RESULTS: Both patient groups were male dominant. Prevalence of hypertension, diabetes was similar. MHR values did not differ between Poor CCC vs Good CCC groups (13.90 ± 6.34 vs. 14.33 ± 7.57 respectively, p=0.948). 15.5% of patients in the Poor CCC group and 19.9% of patients in the Good CCC group have multiple CTOs.
DISCUSSION AND CONCLUSION: MHR as a novel marker of inflammation and atherosclerotic index is not related to CCC development in patients with CTO and stable coronary artery disease.

Keywords: collateral circulation, coronary arteries, HDL Cholesterol, monocyte, ratio

ID: **314**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# A DIFFERENT APPROACH TO THE TREATMENT OF CORONARY STEAL SYNDROME (LEFT INTERNAL MAMMARY ARTERY SIDE BRANCH INTERVENTION)

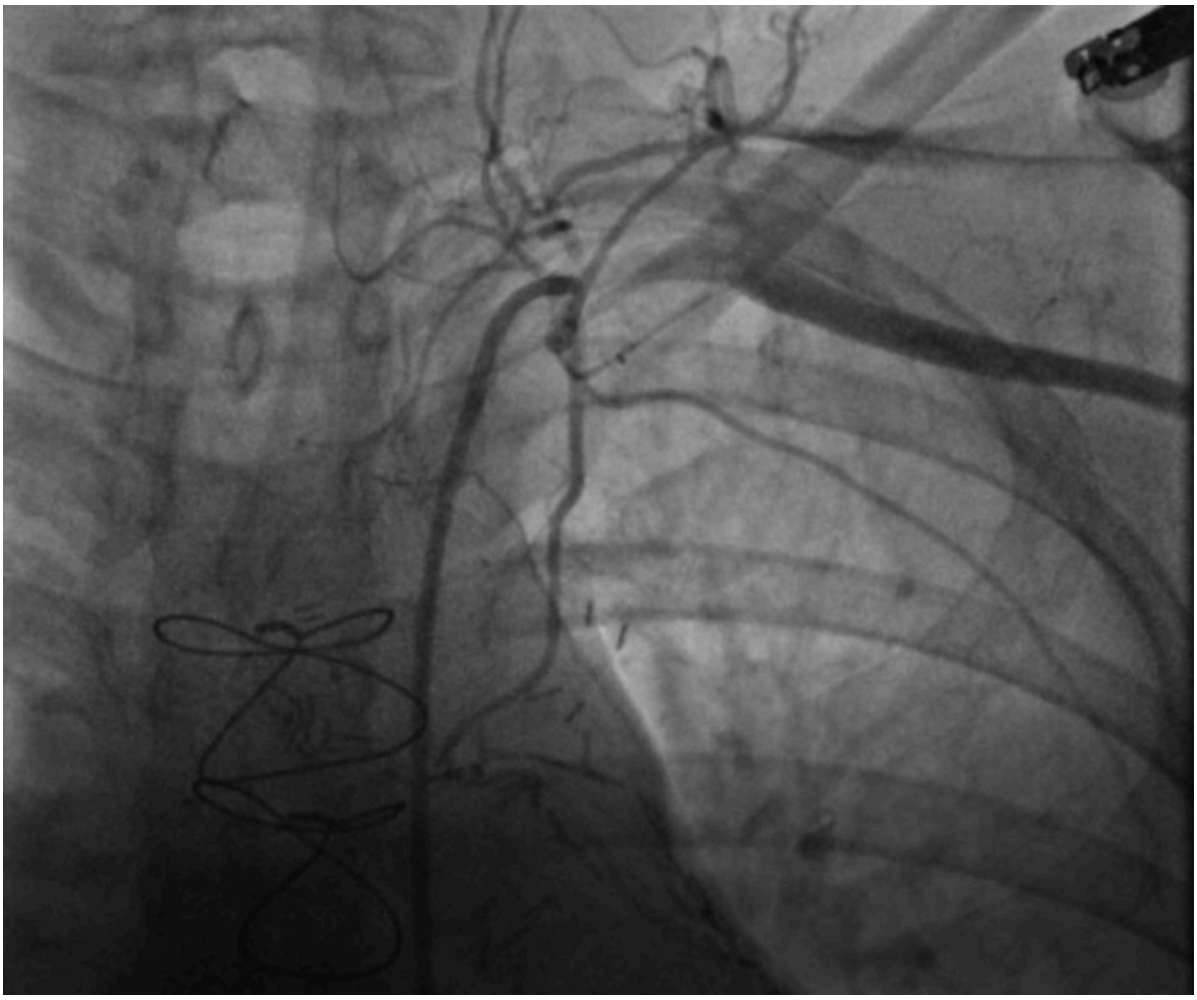
**Uğur KÜÇÜK**, Bahadır KIRILMAZ, Emine GAZI, Halil Fatih AŞGÜN, **Uğur ÖZPINAR**

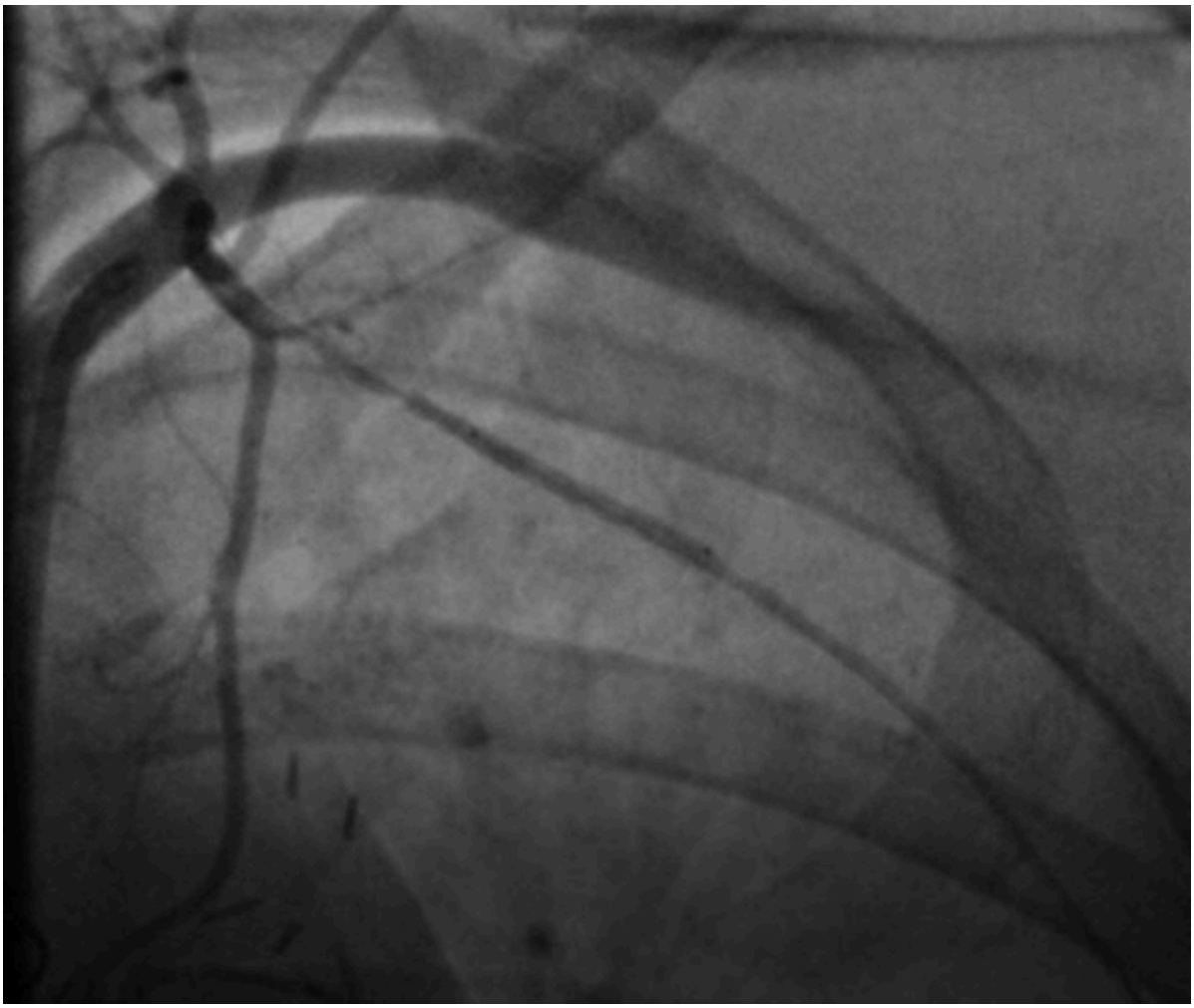
*Canakkale Onsekiz Mart University, ÇANAKKALE, Turkey*

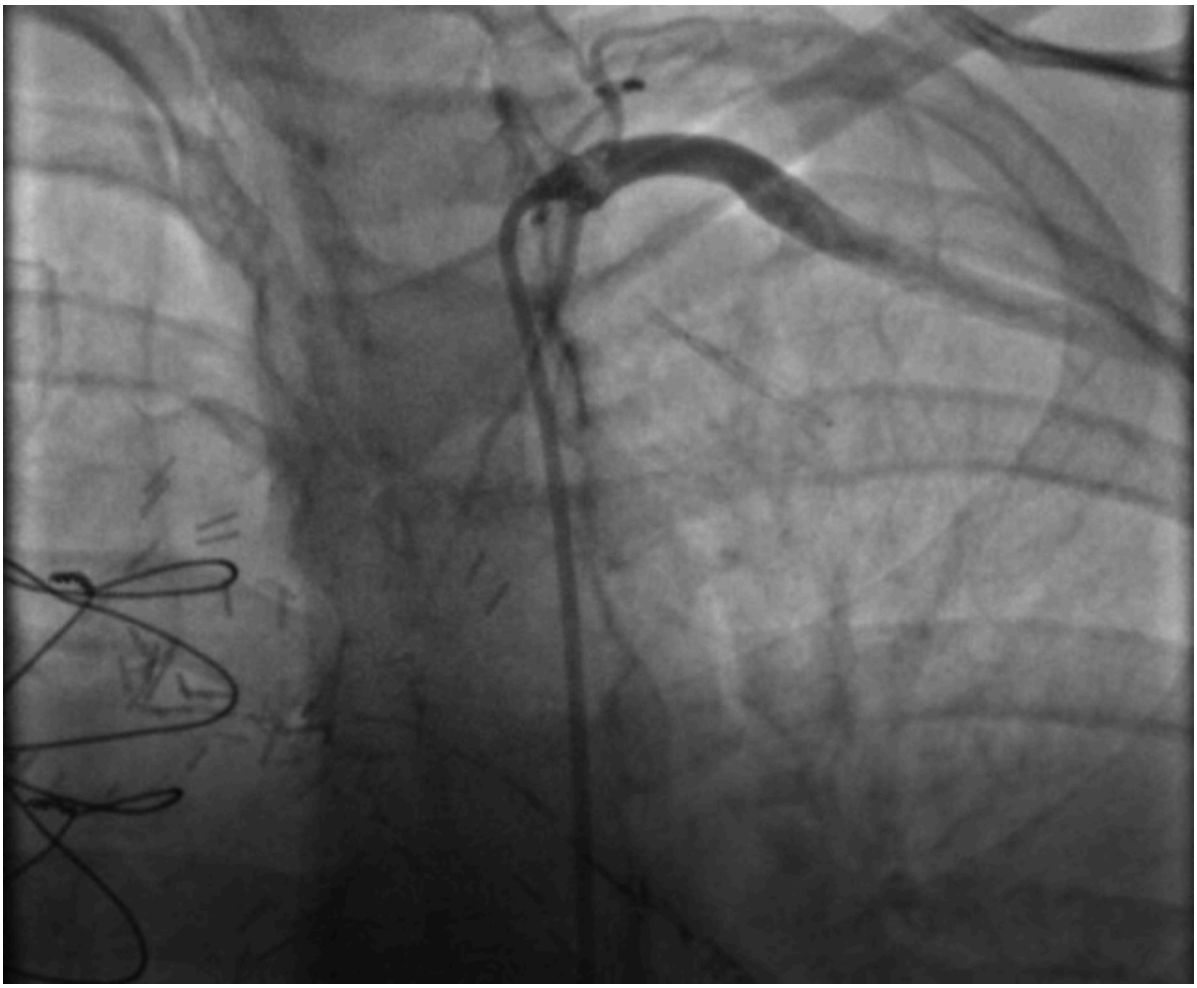
The presence of permanent unligated LIMA side branches after CABG may cause clinical anginal attacks. The aim of our case is to summarize the simple treatment method of coronary steal in LIMA side branch in the clinic.

Case report:
A 41-year-old female patient had NYHA 3 effort angina despite maximal antianginal treatment for the last 1 month. Coronary angiography performed on the patient revealed that the LIMA side branch was not ligated and was interpreted as responsible for the clinical symptoms of the patient due to coronary steal. PCI procedure was decided because the patient was at high risk for CABG. Due to the long lateral branch and the long distance to the LIMA osteal, 2.25x20 and 2.5x9 mm stents were implanted in the side branch for the occlusion of the lateral branch, without providing full opening. In the control CAG performed 2 months later, it was observed that the stents were occluded and the lateral branch was completely occluded. Effort angina attacks were not observed in the patient's follow-ups.

Conclusions: Our method can be safely applied in symptomatic patients with non-ligated side branches in case of LIMA side branch coronary steal.







ID: **319**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# A SCARY COMPLICATION OF PCI: CORONARY DISSECTION

**Rabia Eker AKILLI**, Ömer TEPE, Nur Selin NACAR, Çağlar Emre ÇAĞLIYAN

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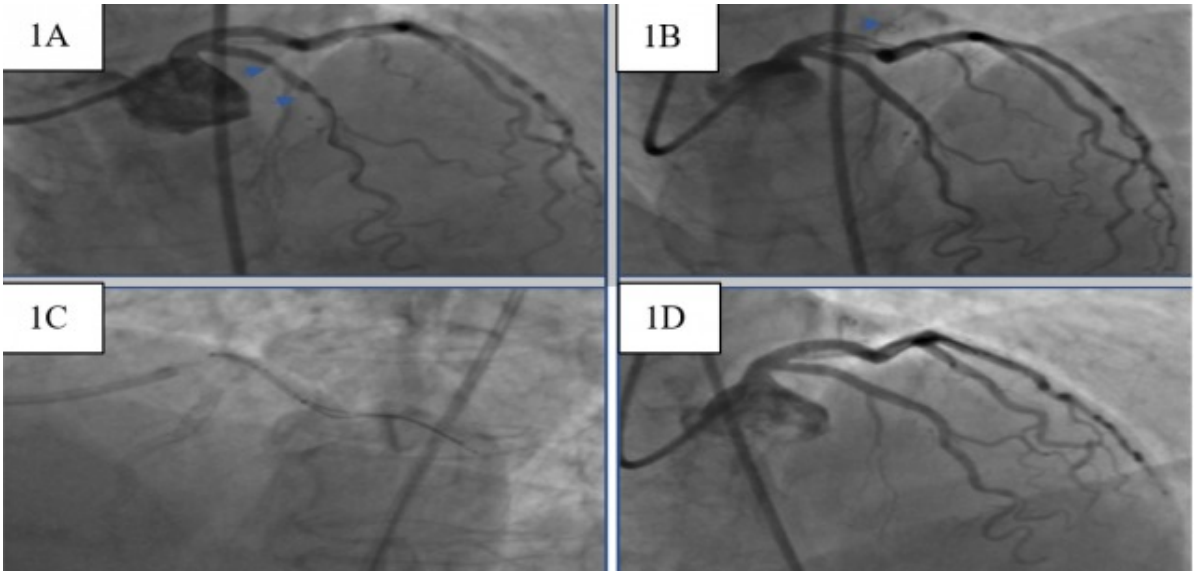
Introduction: Coronary artery dissection may be due to spontaneous, traumatic or iatrogenic causes. Iatrogenic coronary artery dissection is a rare complication of PCI, but with high mortality and morbidity. In this study, it is aimed to present a case of iatrogenic coronary dissection that occurred and successfully managed in a patient who underwent PCI.

Case: A 70-year-old patient with a history of HT and smoking was admitted to the clinic with typical angina. In the evaluation, his physical examination was normal and no ischemic findings were detected in the ECG. In TTE EF: 66%, moderate MR and relaxation defect was detected . In coronary angiography; consecutive lesions causing 80% and 80 -90% stenosis in the proximal and mid LAD (Figure 1A), and intermediate lesions in Cx and RCA were detected. PCI planned to LAD and the lesions were crossed with a guide wire by using a 7F extra back-up (EBU) guiding catheter. Distal lesion was predilated with a 1.5x15 mm balloon, a 2.0x19 mm DES was placed. After predilation with 2.0x19 mm balloon in the proximal lesion, 3.0-2.5x30 mm conical DES was placed. During the completion of the procedure, the patient had a sudden onset of chest pain and hypotension. A catheter related dissection line in the osteal Cx which is not extended to the LMCA was observed (Figure 1B). Cx was wired quickly and a 3.5x18 mm DES was placed (Figure 1C-D) and the procedure was successfully terminated. After the procedure, the patient's symptoms improved. In the follow-up the patient who had no symptoms was discharged with recommendations.

Discussion: Iatrogenic coronary artery dissection is mostly seen due to manipulation of guiding catheter, wire or other equipments during PCI. Other risk factors include female gender, LMCA intervention, use of Amplatz catheters, complex lesions and deep intubation of the catheter in the artery. The most important issue in the treatment of iatrogenic dissection is prevention. A careful catheterization techniques and catheters of appropriate size and construction should be used.The vessel should not be deeply intubated, non-coaxial catheter alignment should be avoided, and injection should not be done in an atherosclerotic plaque.

As a result; Being careful in terms of iatrogenic complications during PCI, using appropriate techniques and equipment, and knowing effective treatment strategies in case of complications will reduce potentially life-threatening complications and also increase the success rates in complication management.



ID: **325**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# THE IMPORTANCE OF IVUS IN THE CASE OF BOTH SEVERE PLAQUE AND CORONARY SPASM CAUSING CARDIAC ARREST

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[1]*university of health sciences ankara city hospital, ankara, Turkey*

[2]*Ankara Yıldırım Beyazıt University Faculty of Medicine, Department of Cardiology, Ankara, Turkey*

Coronary artery spasm may result in lethal arrhythmias and sudden cardiac death. Percutaneous transluminal coronary angioplasty and stenting for the treatment of coronary artery spasm is not well-established. In this case report, a patient who was admitted with aborted sudden cardiac arrest due to coronary spasm and treated with coronary stenting is presented.

A 24-years old man was admitted with sudden cardiac arrest after chest pain at rest. Cardiac arrest resulted in hypoxic brain injury. He was suffering from speech difficulties, abnormal movements and weakness in arms and legs. There was no atherosclerotic risk factors except low HDL-cholesterol ( 28 mg/dl ). Transthoracic echocardiography was unremarkable and left ventricle ejection fraction was 60 %.The patient was started on maximal nitrate and calcium antagonist medication and underwent coronary angiography. Right coronary artery was normal but severe segmental stenosis in the proximal left anterior descending ( LAD ) and total occlusion of intermediate artery ( IMA ) were shown.Despite intracoronary administration of nitroglycerine 800 micg and diltiazem 5 mg, 60 % stenosis in LAD and 90 % stenosis in IMA were remained. Intravascular ultrasound ( IVUS ) demonstrated 78 % and 30 % plaque burdens in proximal LAD and proximal IMA, respectively. A 28 x 4 mm drug eluting stent in proximal LAD and a 3 x 16 mm drug eluting stent in proximal IMA were deployed using reverse T and protrusion technique ( TAP ). Proximal optimisation technique with a 5 x 6 mm non-compliant balloon was performed in left main coronary artery after triple kissing balloon angioplasty with 4 x 20 mm and 3 x 20 mm and 2,5x15 mm balloons. Control IVUS showed undersized stent in LAD and repeated angioplasty in LAD stent with a 4 x 20 mm non-compliant balloon at 20 atmosphere resulted in optimal stent apposition.(video 1- youtube.com/watch?v=E3nnI-7iUzs ) Implantable cardioverter defibrillator implantation for secondary prevention was offered but he did not accept. The patient made an uneventful recovery and was discharged 3 days later.

Coronary stenting for the treatment of coronary vasospasm with underlying atherosclerotic plaque may be feasible. Intravascular ultrasound may be helpful in treatment decision and optimal result for this scenario.

ID: **324**

Topic: **Cardiology > PI for SHD-Transcatheter aortic valve replacement**

Presentation Type: **Oral**

# TRANSCATHETER AORTIC VALVE REPLACEMENT IN A PATIENT WITH AN EXTRA-LARGE BICUSPID AORTIC VALVE

**Ender ÖRNEK**[1], Mustafa ÇETIN[1], Mustafa Mücahit BALCI[1], Kevser GÜLCIHAN BALCI[1], Mustafa KARANFIL[1], Zehra ÇETIN[1], **Yunus Emre ÖZBEBEK[2]**

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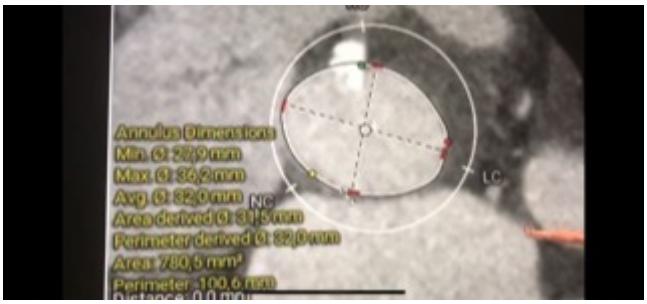
Indications for transcatheter aortic valve replacement (TAVR) in patients with severe aortic valve stenosis are increasing with the increase in technological developments and procedural experience. The diameter of the prosthetic valve used in the procedure is determined by the annulus measurement of the native valve. However, prosthetic valves are produced in a limited number of different diameters. Rarely, there are cases with large annulus diameters that exceed the limits of even the largest diameter prostheses. The applicability of TAVR in these patients is controversial. The subject of the case we will present is the treatment of a patient with severe bicuspid aortic stenosis with an extremely large annulus with successful TAVR.

Case Report

A TAVR decision was taken at the cardiovascular surgery council for a 78-year-old male patient admitted with severe symptomatic bicuspid aortic stenosis. Annulus diameter of 32 mm (27.9 x 36.2), annulus circumference of 100.6 mm, and annulus area of 780.5 mm² were found by computed tomography. The maximum ascending aorta diameter was 38.9 mm, the sinotubular junction was 35.7 mm x 37.3 mm, the left, right and noncoronary sinus valsalva diameters were 44.7 mm, 40 mm and 45.9 mm, and annulus angulation was 64°, respectively.(image 1)




Total calcium score was 1905 mm² (noncoronary cuspid, 1140, right 429, left 336) and a raphe was detected between right and left cuspids.(image 2)

In particular, we chose the self-expandable valve prosthesis due to its reposition advantage. However, the largest diameter of this prosthesis ( Medtronic Evolut R ™ ) was 34 mm, and the maximum native annulus circumference that it could be used was 94.2 mm. We decided to implant a 34 mm prosthetic valve supraannularly because the circumference measurements at 5 mm and 8 mm over the annulus line were below 94.2 mm due to conical shape of stenotic aortic root. We performed the predilatation with a 23 mm balloon. A mean gradient of 4 mmHg and minimal paravalvular regurgitation were detected after the valve deployed at a depth of 2 mm towards the left ventricular outflow at a heart rate of 130/min with a temporary pacemaker.(video 1-www.youtube.com/shorts/zegxTmmPp6U) We discharged the patient, who did not develop complications and did not need a permanent pacemaker, on the 3rd day of his hospitalization.

Conclusion

In patients with bicuspid aortic stenosis with excessively large native aortic annulus, circumference measurements at the supraanular level and the degree of calcification can be a guide for safe TAVR procedure.

**Oral Presentation Session**

**Smart Ideas In Aortic Surgery**

**Date : 04.12.2022 Time: 08:00-09:00 Hall: 5**

ID: **5**

Presentation Type: **Oral**

## THE FIRST EXPERIENCE OF SURGICAL TREATMENT OF TYPE A AORTIC DISSECTIONS.

**Abdusalom ABDURAKHMANOV**, Mustapha OBEID, Amin POLVANOV

*Research Centre of Emergency Medicine, Tashkent, Uzbekistan*

The frequency of diseases of the thoracic aorta has been steadily increasing in recent years. The most commonly diagnosed are aneurysms, dissections, or ruptures of the aorta. The overall mortality in the case of the onset of dissection reaches more than 94%, while mortality with timely surgical intervention in experienced centers can be reduced to 25%.
Aim of the stydy. to evaluate the immediate results of the first experience of surgical treatment of type A aortic dissections.
Material and Methods. The retrospective analysis included 6 patients (all male; mean age 51.7 years (range 46 to 63 years) operated on between August 2021 and March 2022. All patients were diagnosed with type A aortic dissections according to the Stanford classification. In all patients, the diagnosis was confirmed by echocardiography and multispiral computed tomography-aortography. 2 (33%) patients had concomitant ischemic heart disease, in which, according to coronary angiography, hemodynamically significant stenoses of the coronary arteries were detected. In 1 (16.7%) case, grade III aortic valve insufficiency was noted. In 1 (16.7%) case, the intimal tear was located in the proximal part of the aortic arch.
Results. All operations were performed using the method of hypothermic cardiopulmonary bypass (an average time - 251.7±50.0 min) and pharmacological cold cardioplegia (127.7±40.1 min). The femoral artery was cannulated in 4 (66.7%) cases, in other cases the right subclavian artery was cannulated. In 2 (33.3%) patients an antegrade selective brain perfusion was used. In 4 (66.7%) cases, the patients underwent supracoronary replacement of the ascending aorta, in 1 (16.7%) case - aortic root replacement with a composite graft replacement (mechanical valve SJ 23 and Vascutek No. 30 prosthesis) were performed, in 1 (16.7%) case, ascending aorta and aortic arch replacement was performed. Vascutek vascular prosthesis was used in all procedures, biological glue was not used. Coronary bypass grafting was performed as concomitant interventions in 2 (33.3%) cases. The postoperative period in 2 (33.3%) cases was complicated by the development of ischemic stroke, which led to death (mortality rate 33.3%), encephalopathy was observed in 1 (16.7%) case, requiring early tracheostomy, in the remaining 3 ( In 50%) cases, the postoperative period was uneventful. The average volume of postoperative blood loss was 850±117 ml.

Conclusion. The first experience of surgical treatment of dissecting aortic aneurysms showed that timely detection and surgical treatment can lead to satisfactory results with a moderate mortality rate of 33.3%. Further improvement in results seems to be due to the increasing the experience of the operating team

ID: **4**

Presentation Type: **Oral**

## EARLY RESULTS OF SURGICAL TREATMENT OF ASCENDING AORTIC ANEURYSMS.

**Abdusalom ABDURAKHMANOV**, Mustapha OBEID

*Research Centre of Emergency Medicine, Tashkent, Uzbekistan*

The prevalence of aortic aneurysm continues to rise, with an incidence of 5-10 cases per 100,000 population. Surgical treatment of aneurysms of the ascending aorta is now a common procedure and, in highly experienced centers, is associated with low mortality and low morbidity.
Aim of the study: To evaluate the results of surgical treatment of patients with ascending aortic aneurysm.
Material and Methods: This retrospective study included 31 patients operated on for ascending aortic aneurysm between 2016 and 2022. The mean age of the patients was 52.5 ± 2.7 years (28-70 years). The average diameter of the ascending aorta in its widest part was 6.5 ± 0.8 cm (4.5–9.5 cm). In 6 (19.4%) cases, patients were operated on for emergency indications due to aortic dissection type A according to the Stanford classification, of which in one case (3.2%), ascending aortic dissection involved the aortic root, leading to acute aortic valve insufficiency. In 25 (80.6%) cases, aortic aneurysm was combined with aortic valve disease, of which in 17 (54.8%) cases, aortic aneurysm was caused by aortopathy associated with a bicuspid aortic valve, while aortic regurgitation was diagnosed in 8 cases. 3rd degree and in 9 cases - severe aortic valve stenosis with an average systolic gradient of 100 mm Hg. In the other 5 (16.1%) cases, aneurysm of the ascending aorta was combined with symptomatic stenosis of the tricuspid aortic valve, the average gradient on the valve was 103 ± 12.2 mm Hg, and in the remaining 3 (9.7%) cases, aneurysm ascending aorta was associated with Marfan syndrome and was accompanied by severe aortic valve insufficiency.
Results: In 24 (77.4%) cases, the aortic root replacement procedure was performed with a valve-containing composite graft (St. Jude Medical mechanical valve; Vascutek tubular vascular prosthesis), of which 5 cases required an accompanying coronary artery bypass procedure. In 1 (3.2%) case, a procedure was performed to replace the isolated aortic valve and ascending aorta, in 1 (3.2%) case, valve-saving prosthetics of the root and ascending aorta were performed using the Florida Sleeve technique, and in 5 (16.1%) cases aortic dissection type A according to Stanford - prosthetics of the ascending aorta was performed under cardiopulmonary bypass and circulatory arrest. The mean time of cardiopulmonary bypass was 304.4 ± 59.2 min; mean aortic cross-clamping time - 207.5 ± 55.7 min. The average blood loss after surgery was 825 ± 183.2 ml. The average duration of the postoperative hospital period was 12.8 ± 1.2 days. In the early postoperative period, 2 (6.5%) patients operated on for emergency indications died; in 1 (3.2%) case, transient cognitive dysfunction was noted, in other cases there were no postoperative complications. The median follow-up was 16.8 ± 7.2 months, during which two patients died from valve-associated complications (prosthetic valve thrombosis and gastrointestinal bleeding).
Conclusion. Surgical treatment of aortic aneurysms is accompanied by satisfactory results with acceptable mortality rates (6.5%) and complications.

ID: **243**

Topic: **Cardiovascular Surgery > Aortic valve surgery**

Presentation Type: **Oral**

# GIANT SINUS OF VALSALVA ANEURYSM COMPRESSING THE RIGHT ATRIUM AND RIGHT VENTRICLE

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[1]*Samsun University, Sasmun, Turkey*

[2]*Samsun University, Samsun, Turkey*

OBJECTIVE

Sinus of valsalva aneurysm (SOVA) is one of the most important diseases with an incidence of 1 or less and requiring aortic root surgery. It is mostly diagnosed incidentally on imaging studies for another disease. Apart from acute rupture and dissection, symptoms of aortic valve insufficiency, compression of the coronary vessels and, rarely, compression of the heart chambers can be seen. In this case, we present the surgical treatment of a patient with a giant sinus of Valsalva aneurysm (SOVA) compressing the right atrium and right ventricle.

METHODS

A 64-year-old female patient with a known diagnosis of aortic dilatation, but who stated that she could not come to the hospital follow-up due to the covid-19 pandemic in the last 2 years, applied with the complaint of dyspnea, which has increased recently. Echocardiography revealed aneurysmatic enlargement (> 6.5 cm) in the ascending aorta, advanced aortic and mitral valve insufficiency.

RESULTS

A giant right sinus aneurysm of valsalva (SOVA) compressing the right atrium and right ventricle was detected in the patient who was operated on. The patient's right coronary artery was emerging from a rudimentary ostium within the aneurysm. The patient underwent ascending aortic and aortic valve replacement, right coronary bypass and mitral valve repair procedures.

CONCLUSION

Sinus of valsalva aneurysms that are not complicated by aortic rupture can progress rapidly in a short time. Because of the changes in the anatomy and aerodynamics of the heart, accompanying valve diseases can also be seen. We think that a good preoperative mapping with 3D CT-angiography in addtiotion to echocardiography is important for planning the proper operation.


RA
SOVA
Sinus of Valsalva Aneurysm (SOVA)

ID: **262**

Topic: **Cardiovascular Surgery > Thoracic and thoracoabdominal aortic dissections and aneurisms**

Presentation Type: **Oral**

# OBESITY AS A RISK FACTOR FOR AORTIC ENLARGEMENT IN ADULTS WITH MARFAN OR LOEYS-DIETZ SYNDROME

**Mathieu SULEIMAN**[1], Sebastian FREILINGER[2], Christian MEIERHOFER[2], Matthias MAY[1], Gert BISCHOFF[2], Peter EWERT[2], Annika FREIBERGER[2], Michael HUNTGEBURTH[2], Ann-sophie KAEMMERER[1], Mohamed MARWAN[1], Nicole NAGDYMAN[2], Jan-peter ROTH[1], Harald KAEMMERER[2], Michael WEYAND[1], Frank HARIG[1]

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**Background:** Aortic aneurysm and aortic dissection can have a major impact on the life expectancy of Marfan syndrome (MFS) or Loeys-Dietz syndrome (LDS) patients. Although obesity can influence the development of aortic complications, evidence on whether obesity influences the development of aortic aneurysm or dissection in MFS and LDS is limited. The aim of the present study was to elucidate the relationship between aortic size and body composition, assessed by modern bioelectrical impedance analysis (BIA) in MFS/LDS-patients.

**Methods**: In this exploratory cross-sectional study in MFS or LDS patients, enrolled between June 2020 and May 2022, 34 patients received modern BIA and MRI (n=32) or CT imaging (n=2) of the entire aorta.

**Results**: Fifty-one patients (66% female; mean age: 37.7 ± 11.7 [range: 17-64] years) with MFS or LDS were enrolled. Thirty-four patients, 27 with MFS and seven with LDS, underwent aortic MRI or CT scanning. The mean aortic length was 503.7 ±58.7 mm, and the mean thoracic aortic length and abdominal aortic length were 351.5 ± 52.4 mm and 152.2 ± 27.4 mm, respectively. The ascending aorta was measured only in the non-surgically repaired patients. Fifteen MFS (88.2%) and two LDS (40.0%) patients had an aortic aneurysm. In these, the aortic bulb was significantly larger in MFS than in LDS
patients (42.6 x 41.9 x 41.2 mm vs. 37.8 x 37.4 x 36.8 mm). BIA revealed mean body fat levels of 31.7 ± 8.7% [range: 9.5–53.5%], indicating that 28 patients (56.0%) were obese. There was a significant correlation between body fat content and thoracic aortic length (R=-.377), muscle mass and total aortic length (R=.359), thoracic aortic length (R=-.399), extracellular mass, and total aortic length (R=.354), and connective tissue and aortic diameters at the aortic arch, aortic isthmus, and abdominal aorta (all $p<0.05$). Older age was correlated with wider aortic arch, isthmus, and abdominal aorta. Male patients had a longer aorta.

**Conclusions**: Many patients with MFS or LDS are obese, and obesity may be associated with an increased risk of aortic complications. This topic should be included in the clinical assessment of affected MFS and LDS patients, in addition to measurement of the aortic diameters. Physicians should systematically screen MFS and LDS patients for obesity, educate them about the potential risk of resulting aortic complications, and encourage them to prevent adiposity.

ID: **168**

Presentation Type: **Oral**

# COMPERATIVE STUDY OF BYPASS MODELS IN CONCOMITANT AORTOILIAC AND FEMOROPOPLITEAL OCCLUSION WITH COMPUTATIONAL FLUID DYNAMICS

**Muhammed BAYRAM**[1], Kevser Banu KÖSE[2], Çağdaş TOPEL[3], Şenol PİŞKİN[4]

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[4]*İstinye University, İstanbul, Turkey*

**Introduction**

Lower extremity arterial disease is the condition where there is insufficient blood flow to the lower extremities. In an important subgroup of patients with aortoiliac occlusive disease, the femoro-popliteal segment is also involved. Simultaneous proximal and distal reconstruction is often associated with a higher morbidity and mortality rates in such patients while reconstructing profunda femoral artery resolved symptoms in most cases (1, 2). In this study, we investigated aortofemoral bypass patients with occluded superficial femoral arteries in which some anastomoses were performed to profunda femoralis artery in end to end fashion, where the surgeon had to mobilize profunda femoral artery from common femoral artery due to heavy calsification. We compared the computational flow charecteristisc of end to end aortoprofunda bypasses and the conventional end to side aortofemoral bypasses where the target vessel was profunda femoral artery (3-9).

**Methods**

Patient-specific three-dimensional (3D) vascular reconstruction was obtained with image processing algorithms using multislice image datasets. Computational modeling of hemodynamic behavior was generated with Navier-Stokes equations for patient-specific vascular models.

**Results**

The simulation results have been visualized in 3D to observe the flow dynamics and their effects on the operation performance. Figure 1 shows the pressure distribution and WSS on the artery wall of a patient with right aortofomoral and right femoropopliteal occlusion after the operation. The WSS along the graft seems quite homogenously distributed. The operation can cause better flow dynamics besides the flow direction.

**Conclusions**

In this study, we analysed preoperative and postoperative patient-specific models with concomittant aortoiliac and femoropopliteal occlusions. The preliminary results suggest that end to end aortoprofunda bypass graft model has a more preferable flow pattern in hemodynamic visualizations in models compared to end to side aortofemoral bypass graft model. So, these computational tools are promising in planning and predicting aortofemoral bypass operations. The limitations of the study are the number of patients and the patient specific outlet boundary conditions.

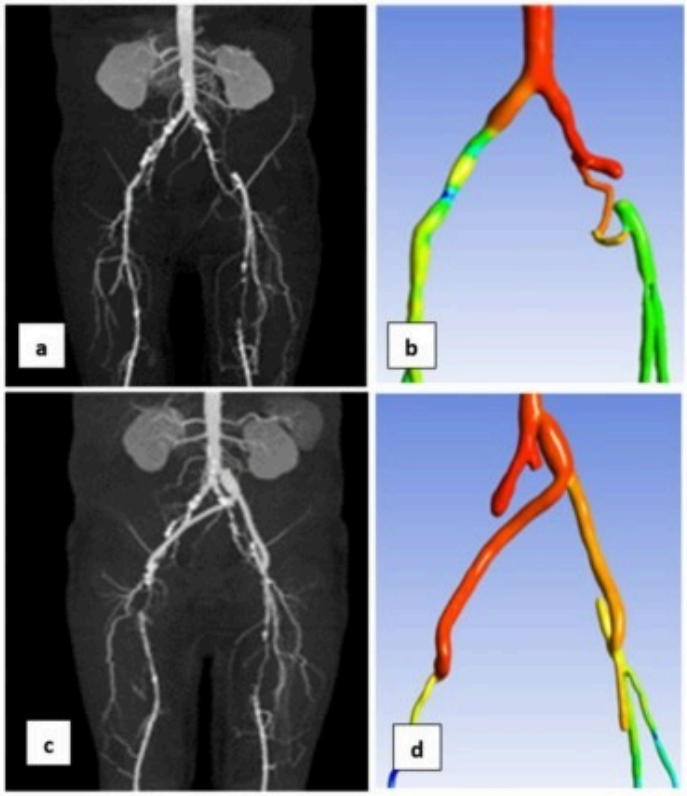


**Figure.1.** Preoperative (a) and postoperative(b) BT datasets of a patient. Pressure distributions on the patient-specific 3D models before (b) and after (d) surgery.

ID: **331**

Topic: **Cardiovascular Surgery > Aortic valve surgery**

Presentation Type: **Oral**

# COMPARISON OF DIFFERENT SURGICAL APPROACHES FOR ASCENDING AORTIC SURGERY: RIGHT ANTERIOR MINITHORACTOMY ANDCONVENTIONAL MEDIAN STERNOTOMY

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OBJECTIVES:
Minimally invasive approach for cardiac surgery has been steadily developing since the early 1990s . Minimally invasive approaches to the aortic root and ascending aorta are increasingly being performed. We aimed to present our initial clinical experience and show the feasibility and safety of RAT approach for ascending aorta surgery with or without aortic valve involvement.

MATERIAL AND METHODS:

This single center study was included 112 patients who underwent ascending aortic replacement with or without aortic valve intervention, between September 2018 and April 2022. RAT was performed for 48 (42.9%) patients (RAT Group) and conventional median sternotomy was performed for 64 (57.1%) patients (CS Group). The primary endpoints included operative variables, reoperation for bleeding, transfusion requirements, time to extubation, length of ICU and hospital stay and postoperative complications.

RESULTS:
Mean age of patients was 67.63±6.67 years, and 65.1% of patients were male. Mean logistic EuroScore II was 2.24±0.81. There was no significant difference between two groups in demographic data. Total operating time was statistically significant lower in favor of RAT group (237.84±24.87 min vs. 259.57±27.41 min, respectively, p=0.0001). Mean ventilation time (12.73±2.96 hours versus 19.43±4.21 hours) and the mean ICU length of stay (1.71±0.86 days versus 3.6±1.71 days) were both shorter in the RAT group ($p<0.0001$ for both). wound infection was significantly lower in RAT group. While length of hospital was significantly shorter in RAT group compared to sternotomy group (7.48±0.91 days versus 10.6±1.43 days, $p<0.0001$), hospital mortality was similar between two groups.

CONCLUSION:
Right anterolateral minithoracotomy is a novel and promising approach for ascending aortic surgery with or without aortic valve involvement. This study suggests that this approach is both feasible and safe. Furthermore, it has the advantages of better wound healing, less ICU and hospital stay, less blood transfusion, and quicker extubation period.

**Oral Presentation Session**

**Aortic Endovascular Interventions One Step Further**

**Date: 04.12.2022 Time: 09:15-10:15 Hall: 5**

ID: **108**

Topic: **Cardiovascular Surgery > Peripheral artery disease and treatment**

Presentation Type: **Oral**

# Axillary Pull Out Syndrome, Rare Complication in Axillo Femoral Bypass Case

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Axillary Pull Out Syndrome, Rare Complication in Axillo Femoral Bypass Case

ABSTRACT

BACKGROUND Axillofemoral bypass is the preferred type of extra-anatomical surgery in peripheral arterial occlusive diseases. This operation can generally be preferred in patients with severe cardiopulmonary risk, adhesions due to a history of previous abdominal surgery, retroperitoneal fibrosis exposed to radiotherapy, and peripheral arterial disease.

METHODS The case that we will talk about in this article has a history of previous abdominal surgery and leriche syndrome. We will talk about axillary pullout syndrome that developed after our axillofemoral bypass surgery.

RESULTS A 62-year-old male patient has complaints of rest pain and claudication in the lower extremities. He had a previous operation for abdominal hernia. Computed tomographic angiography showed a total occlusion of the aorta starting from the infrarenal level, bilateral iliac occlusion, and its superficial and deep femoral arteries were open (Figure 1). We planned elective axillofemoral bypass operation due to the presumed risk factor for intra-abdominal adhesion. The patient was operated under general anesthesia. The subclavian artery, vein and brachial plexus nerve bundle was reached through the pectoralis major muscle fibers through the right-sided infraclavicular transverse incision through the clavipectoral fascia. The axillary artery was explored. Proximal anastomosis was performed with an 8 mm PTFE graft from the proximal part of the musculus pectoralis minor to the axillary artery. After the graft was passed under the skin, the distal anastomosis was made to the femoral artery. In the postoperative period, there was no complaint other than minimal tension at the incision site in the right upper extremity at the time of movement. This period passed normally and the patient was discharged after 4 days. Three weeks later, the patient presented to us with acute pain in the right infraclavicular region and large pulsatile swelling. TA was 108/55 mmHg, Doppler pulse examination revealed monophasic flow in the radial artery. Right femoral pulse was nonpalpable, lower extremity was partially

ischemic. No loss of motor and sensation was observed. It was understood that these complaints, which were mentioned in the patient's anamnesis, occurred after sudden movements of the upper extremity. Emergency thorax tomography was performed. Torn vessel anastomosis segments and hematoma were observed. The patient was taken to emergency operation. Following bleeding control through the previous clavipectoral incision, anastomotic sutures were seen along the periphery of the ruptured axillary artery and fragmented PTFE graft (Figure 2). The fragmented arterial vascular area was repaired with a saphenous patch. Since the axillofemoral graft was thrombosed, ligation was performed and left in place. When the culture result from the anastomosis line was negative, the patient was discharged. After 1 month, a new operation was planned following the wound healing.

CONCLUSIONS Proximal anastomosis complications of axillofemoral bypass include infections, thrombosis, brachial plexus injury, pseudoaneurysms, and suture line localization and failure in 10% of cases. The recommended more medially localized proximal anastomosis site of these grafts can help prevent complications. In the case we mentioned, this complication was caused by the tension caused by acute shoulder movement. As a result, axillary pullout complication, anastomotic stress and rupture can be prevented by making the proximal part of this anastomosis on the medial side of the pectoralis minor muscle as far as possible.

ID: **69**

Topic: **Cardiovascular Surgery > EVAR & TEVAR**

Presentation Type: **Oral**

# AN UNUSUAL ENDOVASCULAR AORTIC STENT GRAFT DISLODGING CASE PRESENTED WITH HICCUP

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[2]*Medical Park Antalya, Antalya, Turkey*

OBJECTIVE:
Hiccups are condition that result of respiratory and abdominal dyssynchronization. We discovered only two publications associated hiccups and abdominal aortic aneurysm.
We describe an unusual clinical sign, persistent hiccups, that associated a fatal condition, abdominal aortic aneurysm endovascular stent – graft dislodging.

METHODS:
A 72-year-old male presented with persistent hiccup which was continuous for 15 days. He has a history of endovascular abdominal aortic aneurysm stent graft implantation (EVAR) 5 years ago (AFX bifurcated stent graft BA25-80/116-40 and AFX Vela proximal endograft system A34-34 / C100-020 V).
CT scan revealed that there was 140 mm in length and 68 x 67 mm diameter abdominal aortic aneurysm. The main body of aorta-bi-iliac EVAR stent graft was separated as proximal and distal part from the graft overlapping zone. The proximal part of the aneurysm was covered by proximal part of the stent graft. The mid part of the abdominal aortic aneurysm cavity was filling by blood circulation. This condition was determined as Type IIIa endo leak. The surrounding of distal part of the graft was also covered by thrombus. Blood circulation was coming from proximal part of the graft, fills the abdominal aortic aneurysm and goes to distally through iliac bifurcated part of the graft (Figure 1).

He was prepared for open surgery because of type III EVAR graft leakage. Abdominal aortic aneurysm was treated successfully by 30 mm Dacron tube graft interposition. There was no hiccup after surgery.

RESULTS:
EVAR is most used technique for treatment of abdominal aortic aneurysm. Type III endoleak means persistent blood flow through the body of the graft. Type IIIa endoleak refers defects between the component of the graft itself. It could be separation of the main graft body from the limb or proximal or distal extension. Type IIIb endoleak means there is defect in the graft like tear or fracture. Type IIIa endoleak is a life-threatening complication because of high risk of abdominal aortic distension and rupture.

CONCLUSION:
Our patient presented with persistent hiccups for 15 days. He was diagnosed as Type IIIa EVAR graft endoleak. We believe that the ethology of his hiccups were a manifestation of abdominal aortic distension and subsequent vagal and phrenic nerve irritation.

Figure1: Computerized Tomography and 3 D reconstruction images of Type III endoleak and abdominal aortic aneurysm.

ID: **153**

Topic: **Cardiovascular Surgery > EVAR & TEVAR**

Presentation Type: **Oral**

# THE IMPACT OF PHYSICIAN SPECIALIZATION ON CLINICAL OUTCOMES IN PATIENTS UNDERGOING ENDOVASCULAR AORTIC PROCEDURES

**Can Baba ARIN**

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Background:

More over the past 20 years the availability of endovascular aortic stent-grafts have become a viable treatment for aortic thoracic and abdominal aneurysms in both elective and urgent situations. These endovascular aortic procedures are generally performed by vascular, cardiothoracic and cardiologists. Each physician specialization has different education, training approach and experience in patients treatment. The aim of this study is to evaluate the impact of medical speciality on outcomes following endovascular aortic procedures.

Methods: This is a retrospective, single-center study. Paients who underwent EVAR( endovascular aneurysm repair) and TEVAR (thoracic endovascular aortic repair) were identified from the 2015 to 2020 . Data for this study were obtained from patients of record at single center.

Results: The results derived from the research will be presented at 18th International Update In Cardiology And Cardiovascular Surgery (UCCVS) Congress.

ID: **154**

Topic: **Cardiovascular Surgery > Thoracic aortic aneurysm and dissection**

Presentation Type: **Oral**

# HYBRID TEVAR PROCESS IN RE-DO TYPE A DISSECTION

**Serkan YILDIRIM**[1], Omer TANYELI[2]

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*[2]NEU, KONYA, Turkey*

**BACKGROUND:** A 57-year-old patient admitted to the emergency department with dyspnea. In the medical history questioning in the emergency department, it is learned that he had AVR and ascending aortic replacement surgery 5 years ago. Contrast-enhanced CT examination performed in the emergency department revealed a dissection image that started after the anastomosis line distal to the ascending aortic graft. The patient was admitted to the cardiovascular surgery intensive care unit for treatment.

**METHODS:** TEVAR was planned for the patient. But before, it was decided to measure the patient who had AVR before. In the measurements made, it was determined that there was not enough distance between the place where the TEVAR graft should sit and the aortic valve for the distal end of the graft. Considering all the circumstances, it was decided to perform de-branching and TEVAR under total circulatory arrest.

After preparations, the patient was taken to the hybrid room. Femoral cannulations were performed and cooling was started. At this stage, a 7mm dacron graft was anastomosed to the brachiocephalic artery and an aortic cannula was placed on the graft. Likewise, the left carotid communis artery was found and a 7mm dacron graft was anastomosed to it. Afterwards, the area where the TEVAR graft would be placed was marked with a metal clip with images taken from the other femoral side. When sufficient coldness was reached, total circulatory arrest was initiated in the patient under antegrade brain protection.

TEVAR graft sent from the femoral artery was advanced to the incision line opened in the ascending aortic graft. The TEVAR graft was opened, starting from the ascending graft and covering the aorta including the arch, by fully aligning the measurements. In control scopies, it was observed that the stent graft was properly seated. While TCA was in progress, the dacron graft in the left common carotid artery and the proximal part of the graft in the brachiocephalic artery were anastomosed to the graft in the ascending aorta.

TCA was terminated and warm-up was started. Decannulation was done after warming up. The patient was taken to the intensive care unit.

**RESULTS:** The patient discharged on the 6th postoperative day.

**CONCLUSIONS:** TEVAR application is now widespread and is done safely. While doing this process, one should be open to surprises and good planning with teamwork is the key to success.

ID: **249**

Topic: **Cardiovascular Surgery > Endovascular surgery**

Presentation Type: **Oral**

# MIDTERM OUTCOMES OF SURGEON MODIFIED FENESTRATED STENT GRAFTS AT ZONE 2 TEVAR WITH LIFE-TECH ANKURA THORACIC ENDOGRAFT

**Hakki Zafer ISCAN**[1], Naim Boran TUMER[1], Bahadir AYTEKIN[1], Goktan ASKIN[1], Serkan MOLA[1], Sabir HASANZADE[1], Ertekin Utku UNAL[2]

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Aim: TEVAR has became the preferred treatment of choice for the management of acute and/or chronic thoracic aorta pathologies. The outcome of all endovascular procedures mandate adequacy of healthy aorta at the attachment sites. Conventional TEVAR is limited to zone 3 pathologies to avoid coverage of any supra-aortic trunk, however real world
experience has shown that 40% of TEVAR require Zone 2 landing. We aimed to evaluate the most economic, basic, physiologic and fast solution for left subclavian artery revascularization endovascularly as “Surgeon Modified Fenestrated Stent Graft” (SMFSG).

Materials and Methods: Since July 2020 in our Cardiovascular Surgery Clinic, we are performing SMFSG for zone 2 TEVAR for all elective or emergent cases when necessitated. There were 28 patients who had SMFSG for LSA, and was retrospectively revealed between July 2020 and July 2022, in a two year period. 26 patients were male and the aortic pathologies are listed in Table 1. There were 7 urgent and 21 elective cases. All procedures were performed by the same
cardiovascular surgeon team under general anesthesia and the Life-Tech Ankura Thoracic endograft was used for all. Double fenestrations, SMFSG with other brands were excluded. 10 patients were in ASA 4 status.

Results: Technical success was 100%. No early or midterm mortality. All patients were followed up for 14.82± 9.3 months (2-24 months) in average. Only a morbid obes female patient experienced LSA fenestration occlusion diagnosed at the first month control without any symptom. There was no other complication like occlusion, endoleak, migration or infection. Eleven patients had an additional covered stent at the LSA after orientation of the fenestration.

Technique: General anesthesia, standart TEVAR procedure, sheath insertion and cannulation of LSA at the brachial site with a 0.14 guide wire, after the femoral sheaths, fenestration of the TEVAR endograft back on the table with previous meticulous measurements, blood pressure control to 60-70 mmHg during deployment, completion angiography, insertion of a covered stent to LSA if any suspicion over the orientation at the completion angiography.

Conclusion: SMFSG has successful early and midterm results in experienced aortic centers. The technique is always available, economic, feasible and safe to perform. Chimney or CSB may be a bail-out procedure or watchfull waiting may be another option if SMFSG fails. In suitable cases SMFSG may be a strong treatment choice for zone 0 or zone 1 aorta pathologies.

ID: **248**

Topic: **Cardiovascular Surgery > Endovascular surgery**

Presentation Type: **Oral**

# FUNNEL TECHNIQUE FOR EXTRA WIDE NECKS: MORE THAN A BAIL OUT PROCEDURE

**Naim Boran TUMER**[1], **Hakki Zafer ISCAN**[1], Goktan ASKIN[2], Bahadir AYTEKIN[2], Serkan MOLA[2], Sabir HASANZADE[2], Ertekin Utku UNAL[3]

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[2]*Ankara City Hospital, , Turkey*

[3]*Antakya Gelisim Hospital, Hatay, Turkey*

Aim: Hostile neck anatomy is the most important strategic point in patient selection and prediction of the early and late outcomes of endovascular procedures. Large aortic neck diameter may be treated with standart endografts under IFU criterias, however wide (≥34 mm) infrarenal aortic neck diameter is above the limit of sufficient oversizing. Funnel technique takes place if there is a wide aortic infrarenal neck and no oppurtunity of Chimney Endovascular aortic
repair (Ch-EVAR), fenestrated EVAR (f-EVAR) or open surgery. We aimed to present our experience with wide infrarenal necked abdominal aneurysms that treated endovascularly with the “funnel technique”.

Materials and methods: Since January 2018 we treated 15 patients with funnel technique. All male, symptomatic
patients with an average age of 73 years old (62-84 years). All patients had multiple comorbidities and in ASA 3-4 status. All infrarenal necks were ≥36mm, there were 8 urgent and 7 semi-elective patients. All patients were operated in the hybrid room by the same cardiovascular surgeon team. For all patients 6 cm Lifetech Ankura thoracic endograft (Shenzen,
China) and uniiliac or standard abdominal endograft of any brand was chosen.

Results: Technical success was 100%. There was no early mortality, no type 1 or type 3 endoleak in completion angiogram and/or the first month computerised tomographic control (CTA). Carbondioxide guided EVAR was performed on two patients who had chronic renal failure. Median follow-up was 29.3±8.1 months (6-48 months).

Conclusion: Wide infrarenal aortic necks with AAA remain a challenge for every type of treatment modality. Hybrid assembly of a thoracic endograft placed through the main body of a bifurcated endograft is basically a solution where other modalities are not available. It is the choice of the cardiovascular surgeon whether to perform fEVAR, ChEVAR, open
surgery or funnel technique due to patients status, and all these treatment modalities carry almost the same long term complications if the patient survives. Funnel technique is not a bail out procedure in our experience and should be present in the armomantorium of a cardiovascular surgeon as it gives satisfactory results for a special subset of patient group.

ID: **300**

Topic: **Cardiology > Diseases of aorta**

Presentation Type: **Oral**

# COMPUTED TOMOGRAPHIC ARTIFACT MIMICKING OCCLUSION OF THE AORTIC STENT

**Ender ÖRNEK**[1], Mustafa Mücahit BALCI[2], Mustafa ÇETIN[2], Mustafa KARANFIL[2], Kevser GÜLCİHAN BALCI[1], Zehra GÜVEN ÇETIN[2], **Yunus Emre ÖZBEBEK[3]**

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A 66 years-old man was admitted with claudicatio intermittens. His medical history included essential hypertension and coronary artery disease with percutaneous coronary stent implantation. Doppler vascular ultrasound and computed tomography (CT) demonstrated significant infrarenal aortic stenosis. Abdominal aortography showed 80% infrarenal aortic stenosis. The cardiology and cardiovascular surgery council decided on percutaneous stent implantation. A 14x34 mm covered gradyan stent (CP-stent®) was mounted on a balloon in balloon catheter (NuMed®) and was successfully deployed in the stenotic segment. After stent implantation control angiography showed mild dissection at the distal edge of the stent.Although the patient made a good recovery 2 days later a CT angiography was performed in order to follow-up dissection. In the CT images the stent lumen of the aortic stent graft appeared homogeneously hypodense and the CT was reported as total occlusion of the stent by the radiologist. (video 1-www.youtube.com/shorts/UWCCJRyzfYE )

Thereafter a control DSA aortography revealed patent graft stent.(video 2-www.youtube.com/shorts/Yn0L5aEIDm4)

Reconstruction artifacts should be taken into consideration if the clinical presentation and images are controversy.

**Oral Presentation Session**

**Challenging Options in Percutaneous Interventions**

**Date: 04.12.2022 Time: 10:15-11:15 Hall: 4**

ID: **78**

Topic: **Cardiovascular Surgery > Peripheral artery disease and treatment**

Presentation Type: **Oral**

# ULTRASOUND-GUIDED COMPRESSION TREATMENT OF IATROGENIC FEMORAL ARTERY PSEUDOANEURYSM AFTER ELECTIVE CORONARY ARTERY ANGIOGRAPHY: 5 YEARS' RESULTS

**Hakan BAHADIR**

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Introduction:

It is a serious complication in which blood leaks around with the deterioration of the integrity of the arterial tissue due to the failure of the arterial lumen to close after the femoral artery puncture during coronary artery angiography. In this case, we are faced with complications such as disruption of peripheral circulation (distal embolism), local necrotic tissue, hematoma and ecchymosis. This is a condition that can be easily treated by applying pressure to the right area under ultrasound guidance on the neck area of the pseudoaneurysm. In this study, we shared our treatment results by ultrasound-guided compression to the femoral pseudoaneurysm.

Methods:
In this cross-sectional study performed in a single center, retrospective. All patients who developed pseudoaneurysm of the femoral artery after coronary angiography for five years (2016 to 2021) and underwent ultrasound-guided compression by a radiologist were included. Information such as gender, age, body mass index (BMI), false aneurysm neck diameter, diabetes, hypertension, anemia, and peripheral arterial disease were collected. Then, the success/failure rate of the treatment was evaluated and the risk factors associated with failure were determined.

Results:
A total of 68 patients were diagnosed during the study period who had femoral artery pseudoaneursym. 53 of 68 patients underwent ultrasound-guided compression. This included 38 female (71.7%), 15 male (28.3%) patients with median age of 63 (min-max: 53-82) years. BMI was higher than 30 kg/m2 in 28 cases (52.8%). 21 patients (39,6%) were diabetic, had 41 (77.35%) hypertension, 8 (15%) had peripheral artery disease, 5 (9.4%) had anemia. The pseudoaneurysm diameter was less than 3mm in 11 patients (20.8%), between 3-5mm in 28 patients (52.8%), and more than 5mm in 14 patients (26.4%). In 36 patients (68%) only ultrasound-guided compression was treated. 4 patients (7.5%) were treated with thrombin injection. Treatment failed in 13 patients (24,5%).

Conclusion:

Obesity, peripheral arterial disease, and a pseudoaneurysm neck greater than 5 mm are among the factors that negatively affect the success of treatment. Ultrasound-guided pseudoaneurysm treatment can be applied easily without the need for interventional or surgical intervention, and it is a treatment method with acceptable success rates.

ID: **97**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

## THE RELATIONSHIP BETWEEN ACHILLES TENDON THICKNESS AND INSTENT RESTENOSIS IN PATIENTS WITH CAROTID STENTS

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**Background:** Carotid artery stenting is a less invasive alternative to carotid endarterectomy (CEA). The main long-term complication associated with recurrent cerebrovascular events after carotid artery stenting is instent restenosis (ISR). Atherosclerosis and Achilles tendon thickening have similar mechanisms. The aim of this study is to show the relationship between Achilles tendon thickness (ATT) and carotid stent restenosis.

**Materials and Methods:** 89 patients who underwent carotid stenting due to carotid artery disease between 2016 and 2020 in our center were enrolled. The patients were divided into 2 groups as those with and without restenosis. Of 50% or more stenosis in the stent was described as stent restenosis. Patients diagnosed with restenosis were confirmed by anjiography (Figure 1A). All patients' bilateral ATT were measured (Figure 1B, 1C).

**Results:** In our study, 16 (17.9%) patients constituted the restenosis group and 73 (82%) patients constituted the non-restenosis group. ATT was compared with the group with and without restenosis, no significant difference was found (4.9±0.8 vs 4.7±0.6, p: 0.27). However, in the marginal effect graphic, it has been shown that the probability of carotid stent restenosis increases with the increase in the mean ATT (Figure 1D). The probability of restenosis was 14% when the mean ATT value was 4.16 mm (mean -1 SD) and the probability of restenosis was 22% when the mean ATK value was 5.36 mm (mean +1 SD) (Table 1).

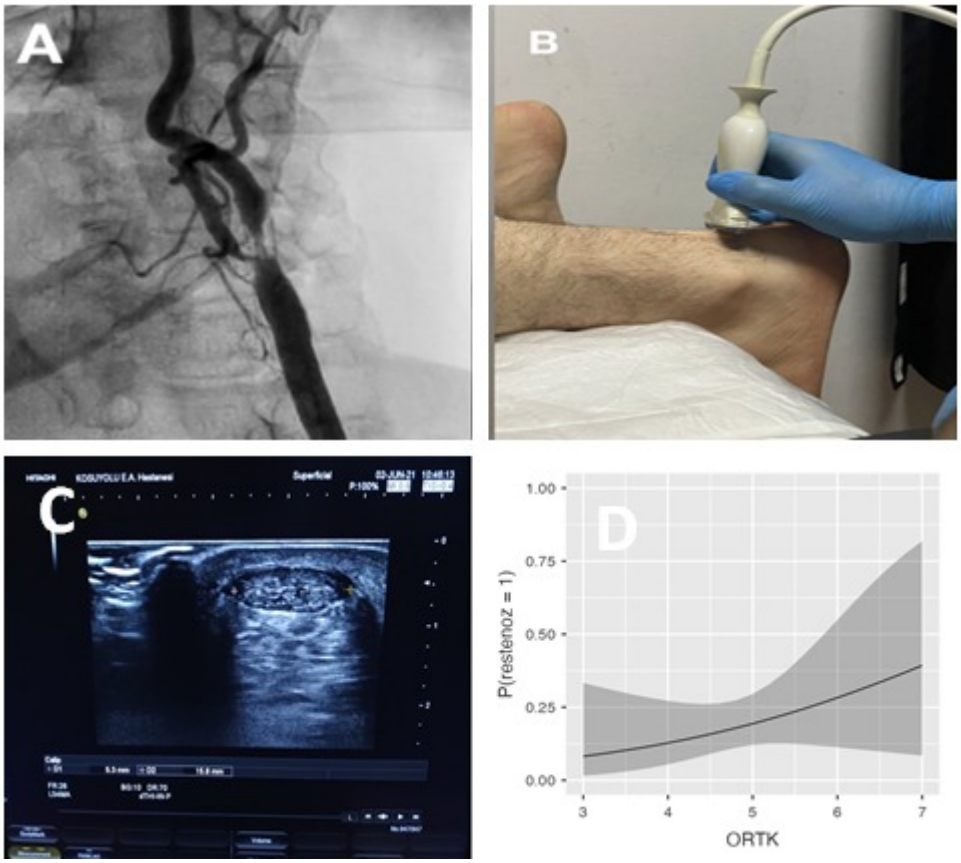


**Table 1.** The relationship between the probability of restenosis and ATT.

SD, standard deviation; ATT, Achilles tendon thickness.

| ATT | The Probability of Restenosis | Standard Error | |
|---|---|---|---|
| **Mean-1 SD** | 4.16 | 0.14 | 0.05 |
| **Mean** | 4.76 | 0.18 | 0.04 |
| **Mean+1 SD** | 5.36 | 0.22 | 0.06 |

**Conclusion:** In this study, we showed that the mean ATT value was associated with carotid stent restenosis. Ultrasonographic measurement of ATT can be used to identify patients at high risk for carotid stent restenosis. In these patients, intensification of lipid-lowering therapy and targeting of lower LDL cholesterol value may be considered.

ID: **131**

Topic: **Cardiology > Interventions for peripheral arterial diseases**

Presentation Type: **Oral**

# CAN WE PREDICT IN-STENT RESTENOSIS OF CAROTID ARTERY?

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[2]*Antalya Training and Research Hospital, Antalya, Turkey*

**OBJECTIVE**

Carotid in-stent restenosis (ISR) is a factor that compromises the long-term efficacy and safety of Carotid artery stenting (CAS). Data on predictors and clinical impact of ISR are still limited. In this study, we aimed to show that peak systolic velocity (PSV) measurements with duplex ultrasonography (DUS) in pre- and post-procedure stenosis can predict optimal stent expansion and ISR development.

**METHODS**

In this study, a total of 650 patients, whose CAS decision was taken at the multidisciplinary carotid council in our center between January 2010 and March 2020 and who underwent CAS procedure in our clinic, were analyzed retrospectively.

Carotid artery was evaluated with DUS before and after stenting at 1 month, 6 months, 1 year and annual controls. In DUS evaluation, if the in-stent PSV of the carotid artery was above 275 cm/s, it was considered compatible with 70% ISR.

The data obtained in this study was recorded in SPSS 23.0 (SPSS Inc., Chicago, IL, ABD) software. Logistic regression analysis was used in the analysis of variables affecting stenosis. $p<0.05$ was considered significant.

**RESULTS**

A total of 522 patients with carotid artery stents were included in the study, and in-stent restenosis was detected in 19 (3.63%) patients during their follow-up. The mean of restenosis month was calculated as 7 months (range 5-30 months).

DUS evaluations of the carotid artery in the 1st month after the CAS procedure, the mean of in-stent peak systolic velocities were 110 cm/s in the group with ISR and 80 cm/s in the group without ISR ($p=0.002$) (Table 1).

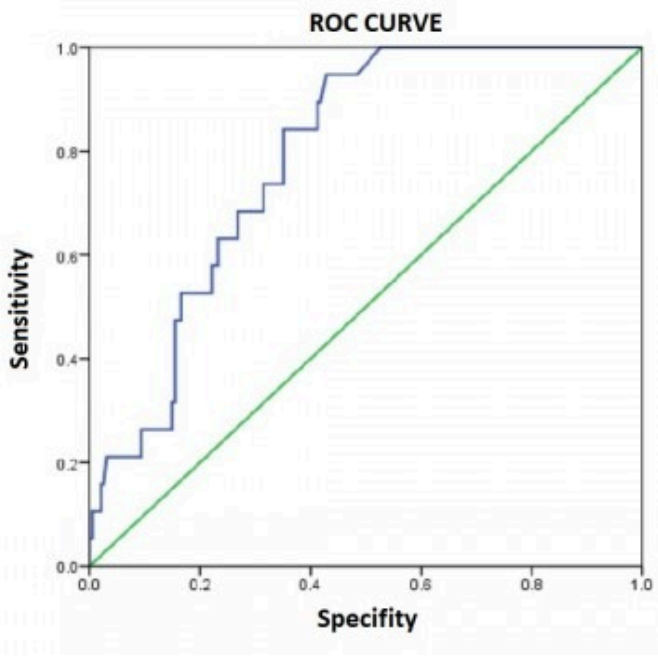
The PSV Ratio of the patients post-stent 1st month/pre-stent was 0.31 in the group with restenosis and 0.20 in the group without restenosis (p<0.001) (Table 1).

Table 1. DUS evaluations of the carotid artery

| Characteristics | Without ISR (N=503) | ISR (N=19) | p-value |
|---|---|---|---|
| Prestent PSV of carotid artery(cm/s), Median (IQR) | 350 (62) | 339 (50) | 0.485 |
| Poststent 1st month PSV of the carotid artery(cm/s), Median (IQR) | 80 (20) | 110 (29) | 0.002* |
| PSV Ratio of poststent 1st month/prestent, Median (IQR) | 0.20 (0.05) | 0.31 (0.07) | 0.001* |

*DUS: Duplex ultrasound scanning, ISR: In stent restenosis, IQR: Interquartile range, PSV: Peak systolic velocity, * means statistically significant*

The threshold value of the area under the ROC analysis curve was found to be 0.222 in the group that developed in-stent restenosis (p<0.001, with 94.7% sensitivity, 57.2% specificity) (Figure 1).




With binomial logistic regression models, a 1% increase in the Post-stent 1st month/pre-stent PSV Ratio after threshold value was found to be associated with a 1.085-fold increase in the probability of ISR (p:0.001) Based on the results obtained from study, we think that the elevated in-stent PSV ratio of the patients post-stent 1st month/pre-stent is an important predictor of ISR.

**CONCLUSIONS**

We believe that there is a significant association between elevated in-stent PSV and in-stent restenosis. So DUS evaluations can help us predict ISR.

ID: **91**

Topic: **Cardiology > Percutaneous coronary interventions**

Presentation Type: **Oral**

# THE USABILITY OF THE INTERMOUNTAIN RISK SCORE IN PREDICTING IN-HOSPITAL MORTALITY IN PATIENTS UNDERGOING PERICARDIOCENTESIS

**Uğur KÜÇÜK**

*Canakkale Onsekiz Mart University, ÇANAKKALE, Turkey*

OBJECTIVE: Percutaneous drainage of pericardial fluid is a common practice in cardiology practice. Therefore, it is very important to identify patients at high risk of mortality in patients undergoing pericardiocentesis. The Intermountain Risk Score (IMRS) can be calculated from routine laboratory parameters. In this study, we aimed to investigate the utility of IMRS in determining in-hospital mortality in patients who underwent pericardiocentesis.

METHODS: This study included 58 patients (25 females and 33 males). All patients underwent pericardiocentesis. Demographic, echocardiographic and laboratory parameters were collected retrospectively.

RESULTS: High IMRS was seen more frequently in patients who died in hospital after pericardiocentesis compared to those who were discharged. However, no relationship was observed between in-hospital mortality in patients who underwent IMRS and pericardiocentesis.

CONCLUSIONS: The data from this study show that calculating IMRS before pericardiocentesis is not associated with mortality in clinical practice.
Keywords: Intermountain Risk Score, mortality, pericardiocentesis

Table 1. Demographic, clinical and laboratory features of the patients

| Variables | Discharged patients (n=51) | In hospital death (n=7) | P value |
|---|---|---|---|
| Age (years) | 67.65±13.85 | 72.50±20.91 | 0.601 |
| Female n (%) | 24(47) | 1(16) | 0.215 |
| LVEF (%) | 51.02±8.12 | 48.50±9.46 | 0.555 |
| Systolic blood pressure (mmHg) | 131.25±9.08 | 127.00±10.34 | 0.372 |
| Diastolic blood pressure (mmHg) | 75.22±9.94 | 73.00±6.41 | 0.476 |
| Heart rate (beats/min) | 92.18±87.76 | 84.0±16.28 | 0.561 |
| IMRS, n (%) | | | <0.001 |
| Low | 2 (4) | 0 (0) | |

| | | |
|---|---|---|
| Moderate | 48 (94) | 2 (33) |
| High | 1 (2) | 4 (67) |

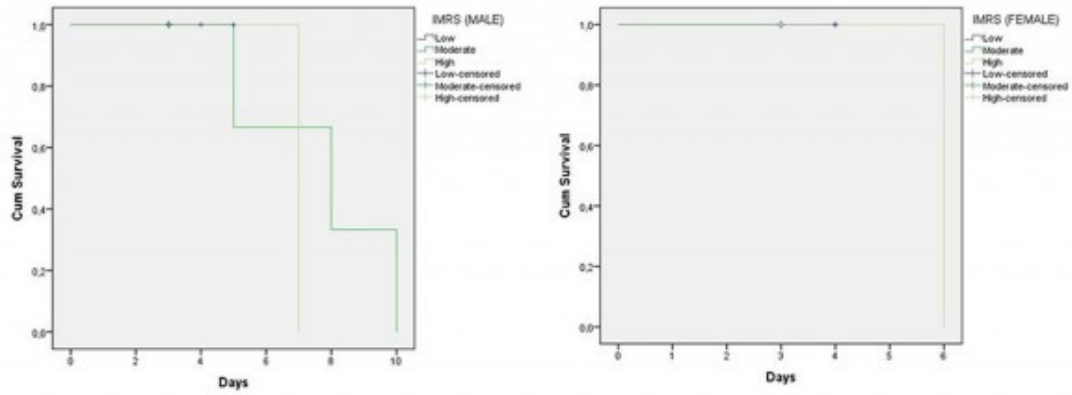



Figure 1. Kaplan-Meier survival curves showing the in-hospital mortality relationship of IMRS in patients undergoing pericardiocentesis by gender

ID: **185**

Topic: **Cardiology > PI for SHD-ASD,VSD,PDA closure**

Presentation Type: **Oral**

## SHORT AND MEDIUM-TERM RESULTS OF COMPARATIVE STUDY OF CLOSURE OF THE VENTRICULAR SEPTAL DEFECT IN CHILDREN: CONVENTIONAL SURGERY VERSUS PERCUTANEOUS CLOSURE: ABOUT 289 CASES.

**Redha LAKEHAL**

*Department of heart surgery Dr Djaghri Mokhtar, 02 cité les freres Boukhalkhal Constantine, Algeria*

Introduction: VSD are common birth defects in children, accounting for 20 % of congenital heart disease diagnosed at birth. Untreated, they progress to serious complications.

Objectives: To compare the advantages, disadvantages, the feasibility, effectiveness and safety of

percutaneous and surgical closure procedures for the treatment of isolated VSD in child.

Methods: Prospective, multicentre, non-randomized study comparing both therapeutic methods of isolated VSD in children with a series of 289 children with isolated VSD and selected in the national and international cardiology and pediatric cardiac surgery departments between October 2018 and October 2020. The patients were divided into both groups. In group A, surgical closure was performed in 111 patients; in group B, 178 patients underwent percutaneous closure. The median age of the patients was 4.4 and 7.23 years, respectively and the body mass index was 14.92 and 17.54, respectively. The median diameter of VSD was 8.39 and 6.31 mm respectively (3-20 mm).

Results: 111 patients in group A and 178 patients in group B underwent successful closure with operative and postoperative mortality in the order of 1.8% and 0.56% respectively, clinical improvement in all our patients, 03 atrioventricular block in group A with absence of atrioventricular block in group B, significant regression in right ventricle dimensions, significant regression in SAPP, significant improvement in systolic right ventricle function. The total close of the defect rate was 95.6% immediately and 100% at 6 months followed in group A, which were not significantly different from those in group B (91.1% and 97.75%), respectively. Patients in group A stayed longer in the intensive care unit and had a much longer hospital stay than in group B. The follow-up period varied from 6 months to 1 year. During the follow-up period, no late complete atrioventricular block occurred in either group. No other serious complications were noted in patients in both groups.

Conclusion: Both procedures are safe and effective for the treatment of isolated VSD. The percutaneous procedure has obvious advantages of a shorter stay in intensive care and less trauma. However, the surgical procedure requires a longer operating and avoids exposure to X-rays.

Keywords: Ventricular septal defect, atrioventricular block, residual shunt, treatment, surgical, percutaneous.

ID: **101**

Topic: **Cardiology > PI for SHD-ASD,VSD,PDA closure**

Presentation Type: **Oral**

# THE SUBTLETIES OF SIZING IN PERCUTANEOUS ATRIAL SEPTAL DEFECT CLOSURE: AN INSTITUTIONAL EXPERIENCE

**Ali BAYKAN**[1], Çağdaş VURAL[2], Alper DOĞAN[3], Yunus Emre KUM[1], Özge PAMUKÇU[1], Kazım ÜZÜM[1], Nazmi NARIN[4]

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*[2]Eskişehir Devlet Hastanesi, Eskişehir , Turkey*

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Objective:

Atrial septal defect (ASD) accounts for approximately 10% of congenital heart diseases. In asymptomatic patients, ASDs with a small defect diameter that does not cause heart failure can be followed without closure as spontaneous closure is expected, but ASD closure is required in patients who do not close spontaneously and have significant shunts. Transcatheter closure therapy is a common technique used to treat secundum atrial septal defects and can be closed percutaneously using a variety of device models.

In this study, it was aimed to compare the relationship between atrial septal defect (ASD) dimensions and device waist diameter dimensions after percutaneous ASD closure in children.

Methods:

This study includes patients with ASD between March 2016 - May 2021 and underwent percutaneous ASD closure. Clinical data such as demographic data and other concomitant heart defects were obtained from the patient's files. The maximal diameter of the defect were measured by transthoracic echocardiography (TTE) and transesophageal echocardiography (TEE) in the four-chamber axes, the aortic axis, and the bicaval axes. In addition, the arithmetic mean of the values and cube root values obtained from the TEE axes; device types, device waist diameters, and balloon sizing diameters were recorded.

Results:

204 children (75 boys, 129 girls) aged between 4 months and 23 years were included in our study. In the angiographic examination, balloon sizing was applied in 174 patients, and TEE was applied to 84 patients during the procedure. Comparing the results of the fit analysis; all defect measurement techniques were correlated with the final device waist diameter measurements. However, when compared among themselves, the largest defect diameter measured by TEE was found to be the most compatible, and the most accurate measurement was calculated to be the aortic axis diameter measurements in TEE.

Conclusion:

According to our results, all defect measurement techniques were correlated with the final device waist diameter measurements. We believe that it would be more beneficial to use all techniques together and decide to exact size of the device, but in restricted conditions if it is possible, ASD size measured by TEE on aortic position should be preferred for device selection to percutaneous closure of ASD.

KEYWORDS:

Atrial Septal Defect (ASD), interventional cardiology, sizing methods, transcatheter closure of Atrial Septal Defect, transesophageal echocardiography, transthoracic echocardiography

ID: **61**

Topic: **Cardiology > PI for SHD-Others**

Presentation Type: **Oral**

# AN UNUSUAL INDICATION FOR A VSD OCCLUDER DEVICE: A GIANT MEDIASTINAL MASS INVADING RIGHT CORONARY ARTERY

**Ali Nazmi CALIK**[1], **Semih EREN**[1], Sukru AKYUZ[2], Sennur Unal DAYI[1]

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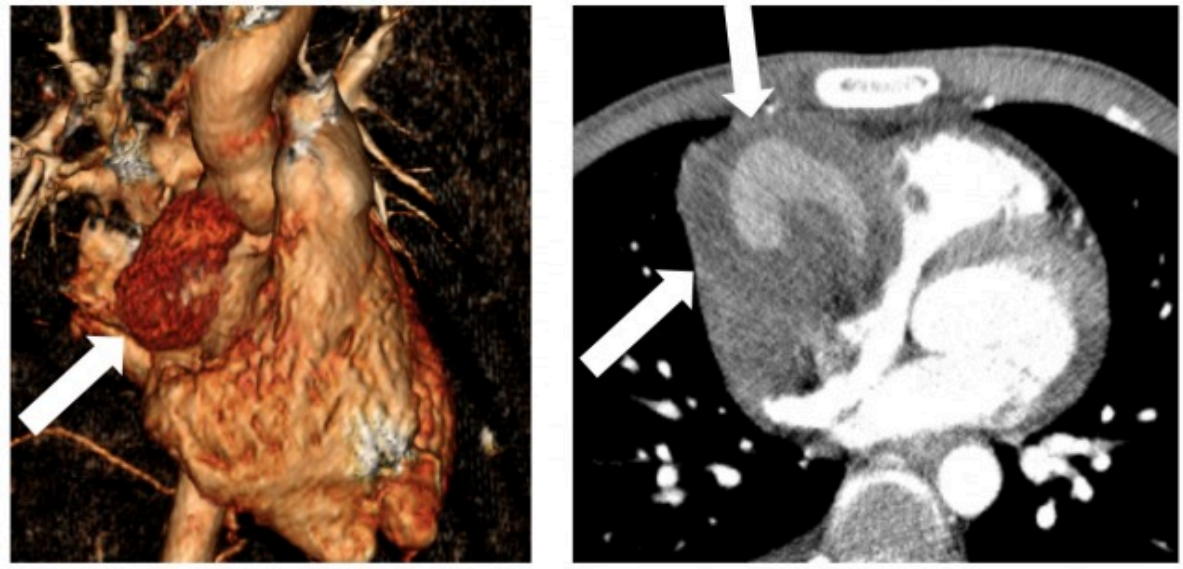
*[2]HeartIst Clinic, Istanbul, Turkey*

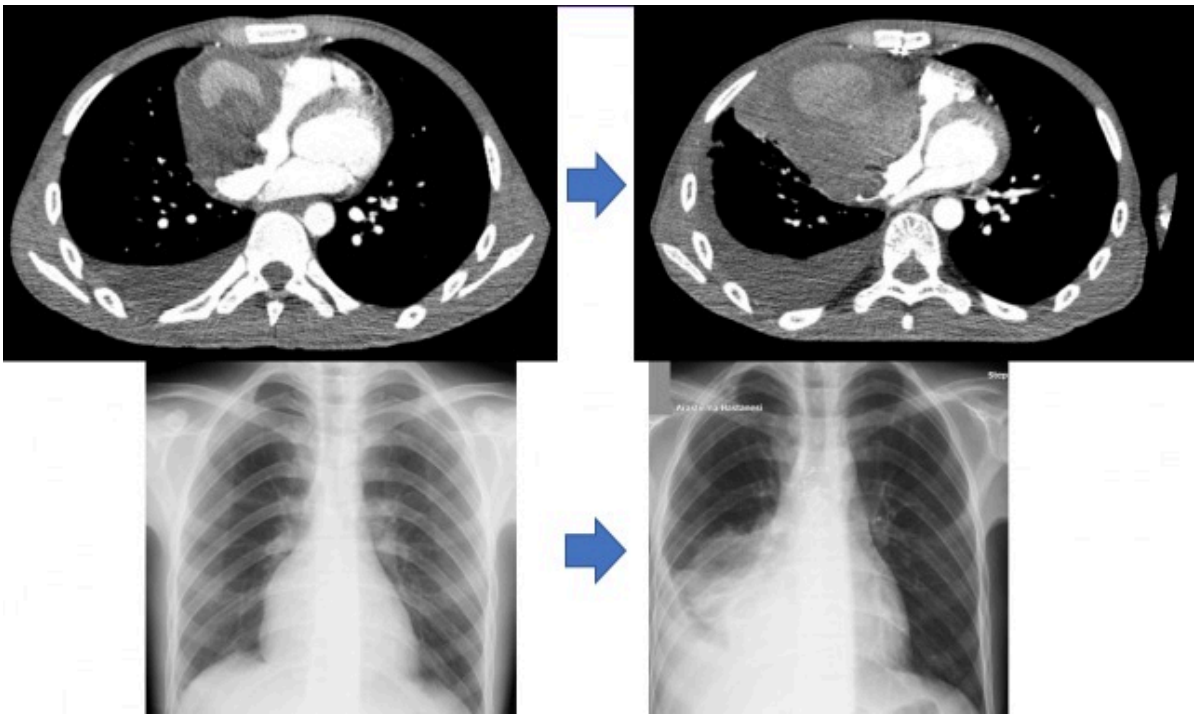
**Case Presentation:** A 19-year-old gentleman presented with weakness, anorexia, and genital aphthae for one month. He lost 10 kg weight in the last two months, and during an investigation for Behçet's Disease, he was referred to our institution due to a mass compressing right atrium and ventricle on TEE. CTA confirmed the cystic, thick-walled mediastinal mass, which compresses the right atrium and right ventricle.**(Figure 1)**



**Cystic, thick-walled mass**
**Compressing the right atrium and ventricle**

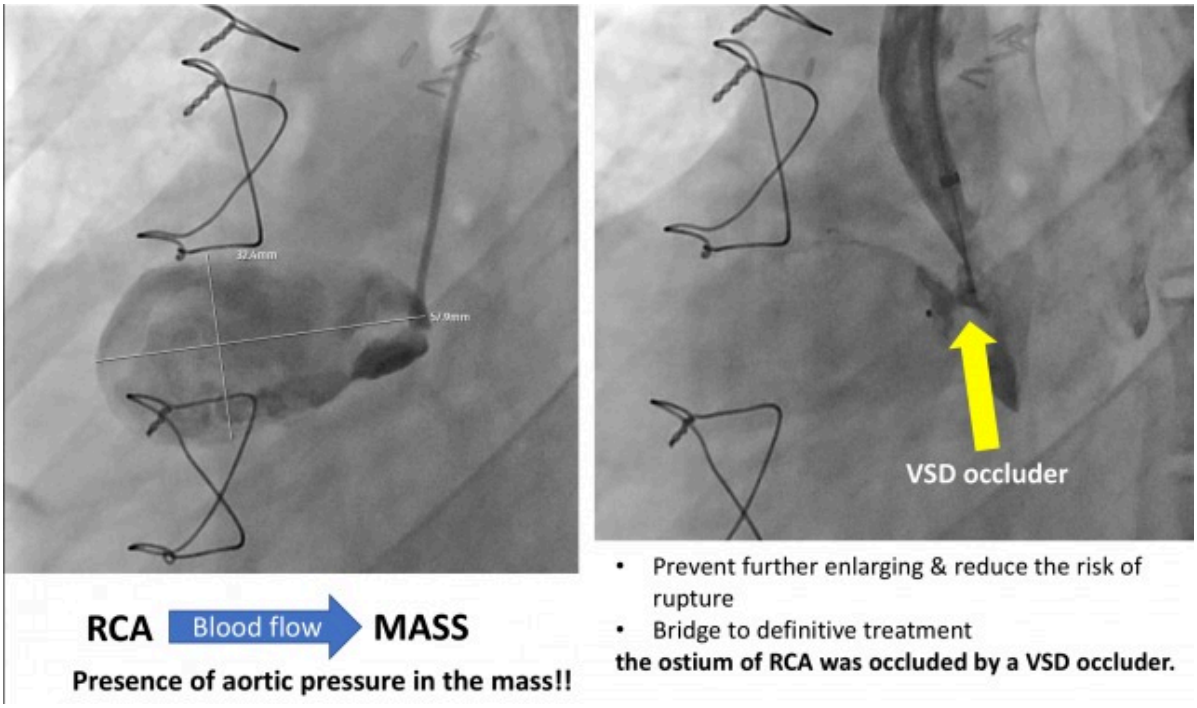
**Treatment and Follow-up:** The patient was discussed with the heart team and decided to undergo surgical resection of the mass. During surgical intervention, approximately 10 cm mass with a malignancy-like appearance was observed, and due to the high risk of bleeding and possible surgical complications, the mass was unresected. However, a biopsy was obtained from the mass's outer layer, which was unremarkable for malignancy. After the surgery, albendazole was initiated with suspicion of a cardiac hydatid cyst.

During the in-hospital follow-up, chest X-ray and CT revealed enlargement of the relevant mass.**(Figure 2)**



Following coronary angiogram (CAG) confirmed the invasion of the RCA by the mass and compromised flow of the RCA due to mass compression. The left coronary system was supplying the RCA in a retrograde fashion. In order to reduce the risk of rupture and prevent further enlarging of the mass, which was filled by the RCA itself and gain time for definitive treatment, we decided to occlude the connection between the mass and RCA with a VSD occluder. **(Figure 3).**

After reassuring no blood flow into the mass, TEE and fluoroscopy-guided biopsy were obtained from the mass's inner layer, which subsequently confirmed the diagnosis of cardiac echinococcosis.



Postprocedural CTA revealed a reduction in the size of the mass and reduced compression of the right cardiac chambers.

The patient refused redo surgery for resection of the mass, was discharged voluntarily, and was lost to follow-up.

ID: **253**

Topic: **Cardiology > Hypertrophic cardiomyopathy**

Presentation Type: **Oral**

# HYPERTROPHIC CARDIOMYOPATHY

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Patient Who Have Hypertrophic Obstructive Cardiomyopathy Undergo Alcohol Septal Ablation Inappropriate Septal Artery Branch

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1 Istanbul University Cerrahpaşa Institute of Cardiology, Department of Cardiology

Introduction

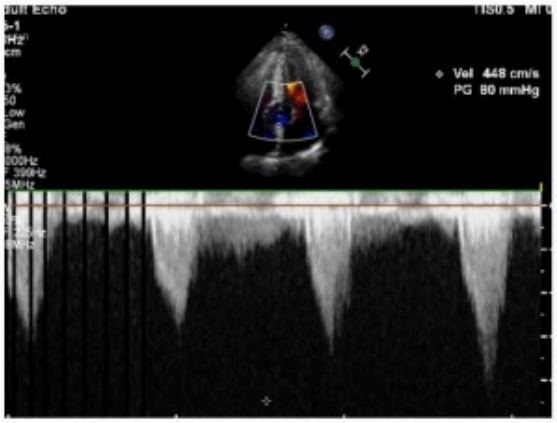
Cardiomyopathy is defined as structural and functional abnormalities of the ventricular myocardium that cannot be explained by coronary artery disease or abnormal loading conditions. The disease can be divided into two groups; as primarily cardiac involvement and secondary cardiac involvement secondary to systemic diseases. The prevalence of hypertrophic cardiomyopathy is 1 in 500 people worldwide. Hypertrophic cardiomyopathy is the most common genetic cardiovascular disease and is the most common cause of sudden death in young athletes. In 60% of patients with hypertrophic cardiomyopathy, mutations in the gene encoding cardiac sarcomere proteins have been detected.

## Case

A 60-year-old male patient applied to us with complaints of dyspnea on exertion and presyncope for 2 years. The patient, who has a history of paroxysmal atrial fibrillation and hypertrophic obstructive cardiomyopathy, uses rivoraxaban 20 mg and metoprolol 200 mg. On physical examination, there is a 3/6 systolic ejection murmur in the apical focus. Electrocardiography showed sinus rhythm, left ventricular hypertrophy pattern in precordial leads, heart rate was 52 bpm. Laboratory examination of the patient was unremerkable and his functional capacity was NYHA class III-IV. Echocardiography performed due to dyspnea and functional capacity limitation, normal left ventricular systolic function, interventricular septum thickness 17 mm, posterior wall thickness 13 mm, left atrium 49 mm, mild to moderate mitral insufficiency in the valves due to systolic anterior motion, mild tricuspid regurgitation, a gradient of 54 mmHg at rest and 80 mmHg with Valsalva in the left ventricular outflow tract, and the patient was accepted as hypertrophic obstructive cardiomyopathy. The patient was followed up medically for a certain period of time and received optimal medical treatment, but; Beta blocker dose could not be increased further in the patient whose heart rate decreased to 52. Since the patient was symptomatic despite medical treatment, septal reduction treatment was decided. The patient stated that he did not want surgery, so septal alcohol ablation was decided. The patient was taken to the catheter laboratory by making the necessary preparations. A temporary pacemaker was inserted through the femoral vein. The femoral artery was entered with a 7F sheat and coronary imaging was performed. In the left imaging, no suitable septal artery was found for alcohol ablation from the Lad artery. Considering that there might be variation, right imaging was also performed, and no septal artery suitable for alcohol ablation was found there, and the procedure was terminated. It was explained to the patient that he did not have a suitable artery for alcohol septal ablation, and surgical resection treatment was planned after consultation with the cardiovascular surgery unit.

## Discussion

Septal reduction therapy in the treatment of hypertrophic obstructive cardiomyopathy is divided into two groups as surgical myectomy and alcohol septal ablation. Septal alcohol ablation as an easily applicable technique in the catheter laboratory; especially as an alternative method to surgery, it has become increasingly common in recent years; however, there are some advantages and disadvantages when comparing septal alcohol ablation and surgery. Especially when septal alcohol ablation is chosen as the septal reduction treatment, the permanent pacemaker requirement can be reached up to 10-15%. Of course, the presence of the appropriate septal artery in septal alcohol ablation treatment is extremely essential for the success of the procedure. As seen in our case, septal alcohol was not considered suitable for ablation because there was no significant septal artery in our patient, and many micro septal perforative arteries fed the septum in a balanced way, and the patient was decided to undergo surgical myectomy. Recently, clinical studies have been published on mavacamten, a tyrosine kinase inhibitor, especially in terms of reducing the need for septal reduction therapy. This agent has been shown to reduce the need for septal reduction, especially in patients with symptomatic hypertrophic obstructive cardiomyopathy. However, current clinical studies are insufficient and further studies are needed on this subject.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## Oral Presentation Session

**Deep Dive In Endovascular Venous Interventions**

**Date: 04.12.2022 Time: 10:30-11:30 Hall: 5**

ID: **90**

Topic: **Cardiovascular Surgery > Varices & DVT**

Presentation Type: **Oral**

# OUR EXPERIENCES IN DEEP VEIN THROMBOSIS TREATMENT

**Murat CANTURK**

*bandırma eğitim araştırma hastanesi, bandırma, Turkey*

Purpose: Deep vein thrombosis (DVT) is characterized with the formation of a clot in the deep venous system and is a disorder with life-threatening severe complications (pulmonary embolism etc.). In this study, it is aimed to examine the etiological factors in the patients with DVT diagnosis via Doppler retrospectively.

Material and Method: 64 patients with DVT diagnosis, who have applied Bandirma Training and Research Hospital Cardiovascular Surgery Clinic between February 2021 and May 2022, are accepted in the study. Standard DVT treatment (Low-molecule weight heparin (LMWH) and warfarine) is applied to the patients. Regular Pt, INR control is applied to the patients.

Findings: 20 of the patients are male and 44 are women. The age average is 48.6. All the patients have temperature rise, pain and swelling complaints. When the patients are examined according to their etiological factors; 7 patients are determined as postpartum, 4 as malignity, 9 as postoperative, 6 as stroke, 4 as genetic mutation, 3 as blunt trauma and 3 as long travel. No reason is found in 28 patients.

Conclusion: As it is known; Virchow triad, stasis, hypercoagulability and blood vessel wall damage are important in DVT pathogenesis. Thus prophylactic treatment in the prevention of DVT development has gained great importance. In medical thromboprophylaxis; LMWH, fondaparinux, vit K antagonists can be used and in mechanical thromboprophylaxis, intermittent pneumatic compression may be used. Insufficient thromboprophylaxis can cause DVT development in surgical and bedfast patients. Thus DVT has developed in 26 patients during this study.

Conclusion: Etiology should be investigated in the patients with the diagnosis of deep vein thrombosis. In terms of the route of the clinical picture and the prevention of complications; thromboprophylaxis, early diagnosis and effective treatment are important.

ID: **89**

Topic: **Cardiovascular Surgery > Varices & DVT**

Presentation Type: **Oral**

# SAPHENOUS NERVE DAMAGE AFTER STRIPPING IN VENOUS INSUFFICIENCY SURGERY

**Murat CANTURK**

*bandırma eğitim araştırma hastanesi, bandırma, Turkey*

Purpose: Stripping is a commonly used method in saphenous vein surgery. During stripping; saphenous nerve damage is an undesired complication. In this study; the saphenous nerve damage frequency is investigated in the patients to whom stripping method is used.

Material and Method: 240 patients with venous insufficiency, who have applied to Bandirma Training and Research Hospital Cardiovascular Surgery Clinic, are taken in the study. The preoperative venous Doppler USG's of the patients are taken. Total stripping to 220(%91,66) patients and partial stripping to 20 (%8,33) patients are applied together with various varicosis pake extirpation process. After discharge, the patients have used medium-pressure short varsity socks. In the 3rd postoperative week and in the 3rd month; all the patients are evaluated with simple neurological tests.

Findings: 142 (%59,1) of the patients are female and 98 (%40,8) are male. Age average is 48,2. In intra-operative examination; co-morbid saphenous nerve in mid-calf level is visually determined in two removed saphenous veins. In the neurological examination performed in the 3rd postoperative week; saphenous nerve damage is seen in 33 (%13,7) patients and this number has regressed to 21 (%8,75) in the 3rd month.

Conclusion: Ever so saphenous nerve damage after stripping is thought to be an insignificant complication; the highness in the rate reveals that it is an important complication that should be considered during the surgery.

ID: **180**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Oral**

# EARLY AND LATE PATENCY IN BASILIC VEIN TRANSPOSITION AND COMPLICATIONS

**Mustafa DAĞLI**[1], Hüseyin DURMAZ[2]

[1]*cardiovascular surgery, konya, Turkey*

[2]*Cardiovasculary surgery, konya, Turkey*

Objective: Basilic vein transpositions (BVT) are very important autogenous fistula applications that should be preferred before prosthetic graft applications in upper extremity cephalic vein insufficiency. The aim of this study; The aim of this study is to retrospectively analyze the 1- and 3-year patency rates of BVT applications, the treatment results of early and late complications and compare them with the literature results.

Method: Hospital records of patients who underwent BVT in our clinic between January 2013 and January 2022 were retrospectively reviewed. Demographic characteristics, comorbidities, secondary procedures for patency and causes of fistula loss were recorded. The process up to the first interventional procedure was evaluated as primary, primary assisted by the procedure, and secondary patency of fistula loss. Statistical evaluation was done with SPSS 23 program and patency rates were analyzed by Life-Table method.

Results: The records of 48 patients who could be followed out of a total of 70 patients were reviewed. The most common comorbidities in patients aged 19-81 (mean 63.2±9) were hypertension (62%) and diabetes (39%). Seventeen of the cases were performed in two stages and the others in a single stage. In all cases, the vein was transposed by tunneling to remain at least 6 cm lateral and on the surface. In two-stage surgeries, the basilic vein was cut over the anastomosis and re-anastomized by tunneling. Simultaneous closure, aneurysm resection, and arterial repair were performed in 16% of the cases. The patients were evaluated in terms of complications such as infection, bleeding, hematoma, paresthesia, functionality, venous stenosis, aneurysm, occlusion, edema, venous hypertension (VHT), ischemic hand in the early and late periods. Hematoma/seroma 14%, infection 2.3%, aneurysm 8%, VHT 7%, ischemic hand was 1.6% and venous stenosis was 34%. These complications were treated with surgical or interventional methods. One-year primary, assisted primary, and secondary patency rates were 73%, 82%, and 91%, while 3-year rates were 61%, 73%, and 78%, respectively. Fistula loss was mostly due to thrombosis secondary to venous stenosis.

Conclusion: Upper arm BVT fistula surgeries performed in patients with chronic kidney disease are compatible with the literature in terms of early and late complications and patency rates. BVT should be kept in mind as an important option in autogenous fistula applications.

**Oral Presentation Session**

**Coronary Artery Disease: Predictors of Outcomes**

**Date: 04.12.2022 Time: 11:30-12:30 Hall: 4**

ID: **95**

Topic: **Cardiology > Acute coronary syndromes**

Presentation Type: **Oral**

# ASSESSMENT OF S-NITROSOTHIOL AND THIOL/DISULFIDE LEVELS IN ACUTE CORONARY SYNDROME PATIENTS

**Mehmet Murat YIĞITBAŞI**[1], **Abdullah Nabi ASLAN**[2], Harun KUNDI[2], Mücahit Furkan ERKILIÇ[3], Özcan EREL[4], Hacı Ahmet KASAPKARA[5]

[1]*Sarıkamış County Public Hospital, Kars, Turkey*

[2]*Ankara City Hospital Heart Vessel Hospital, Department of Cardiology, Ankara, Turkey*

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[4]*Ankara Yıldırım Beyazıt University, Faculty of Medicine, Department of Biochemistry, Ankara, Turkey*

[5]*Ankara Yıldırım Beyazıt University, Faculty of Medicine, Department of Cardiology, Ankara, Turkey*

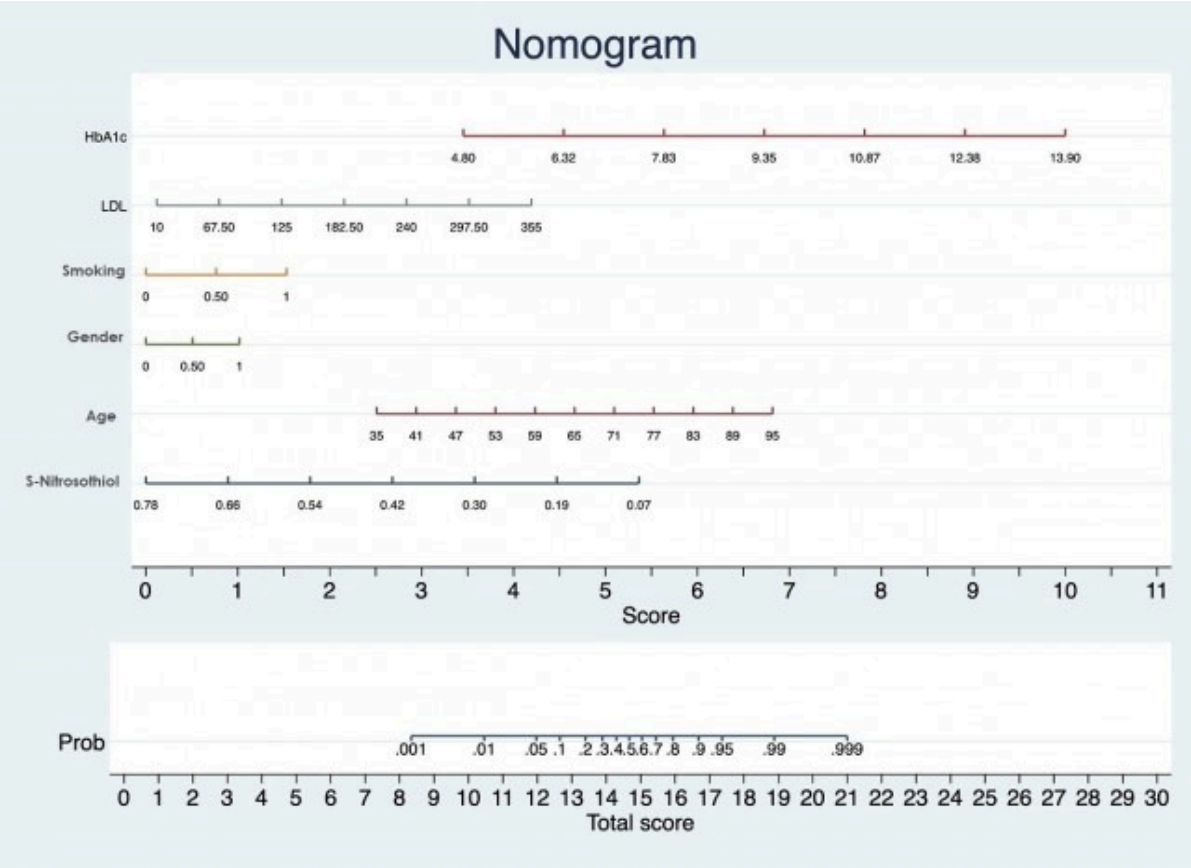


Table 4: Assessment of independent predictors for the diagnosis of acute coronary syndromes with multivariable logistic regresssion analysis

| Variables | OR 95% CI | p-value |
|---|---|---|
| S-Nitrosothiol, µmol/L | 0.001 (0.001-0.046) | 0.002 |
| Age, years | 1.081 (1.045-1.119) | <0.001 |
| Male gender | 3.037 (1.335-6.909) | 0.008 |
| Smoking | 5.310 (2.432-11.596) | <0.001 |
| LDL-Cholesterol, mg/dL | 1.012 (1.004-1.021) | <0.001 |
| HbA1c , % | 2.192 (1.551-3.097) | <0.001 |

Abbreviations: HbA1c, glycosylated haemoglobin, LDL, low-density lipoprotein CI: confidence interval; OR: Odds ratio

Background/aim: The level of nitric oxide (NO), an antioxidant molecule, is important to protect the heart from ischemic damage in acute coronary syndrome (ACS) patients. S-nitrosothiol (SNO) is a molecule that represent the main form of NO storage in the vascular structure. In addition, dynamic thiol/disulfide homeostasis is known to play an important role in maintaining the oxidant-antioxidant balance. In this study, our aim is to evaluate the oxidative/nitrosative stress status according to SNO level and thiol/disulfide homeostasis in patients with ACS.

Materials and methods: The study included 124 patients who were admitted to the emergency service and 124 consecutive individuals who applied to the cardiology outpatient clinic with cardiac complaints and underwent coronary angiography (CAG). Blood was drawn from all participants included in the study to determine SNO, nitrite, total thiol, native thiol and disulfide levels within 4-8 hours after CAG.

Results: Serum SNO levels were found to be significantly lower in ACS patients compared to the control group (0.3 ± 0.08 vs. 0.4 ± 0.10 µmol/L, successively, p< 0.001). In addition, while the total thiol, native thiol, native thiol/total thiol levels were lower in the patient group compared to the control group, nitrite, disulfide/native thiol and disulfide/total thiol levels were higher. As a result of multivariate logistic regression analysis (Table 4), it was determined that age, gender, smoking, low-density lipoprotein cholesterol, glycosylated haemoglobin and SNO levels were independent predictors in predicting ACS patients.

Conclusion: S-nitrosothiol and thiol levels were found to be significantly lower in ACS patients. In addition, SNO molecule was shown to be an independent predictor of ACS diagnosis.

ID: **23**

Topic: **Cardiology > Acute coronary syndromes**

Presentation Type: **Oral**

# THE RELATIONSHIP BETWEEN MULTIVESSEL DISEASE AND MONOCYTE/HDL-C RATIO IN PATIENTS PRESENTING WITH ACUTE CORONARY SYNDROME

**Kenan TOPRAK**

*harran university, SANLIURFA, Turkey*

BACKGROUND:

Acute coronary syndromes are among the most common causes of death worldwide. Inflammation has an important place in the etiology and pathogenesis of ACS (acute coronary syndrome). To date, many different parameters have been used to assess inflammation. Monocyte HDL ratio (MHR) is a new marker of inflammation that has come into use in recent years. The aim of our study is to determine the clinical significance of MHR in patients presenting with ACS.

METHODS:

In this retrospective study, 195 patients who applied to our clinic with the diagnosis of acute coronary syndrome and underwent coronary angiography were included. Routine hematological and biochemical parameters of all patients were analyzed retrospectively. MHR was obtained by dividing the number of monocytes by HDL cholesterol. The patients were divided into 3 groups according to their MHR tertiles. All 3 groups were compared for angiographic features and MHR.

RESULTS:

There was no significant difference between the 3 groups in terms of baseline demographic characteristics. However, it was determined that the frequency of 3-vessel disease increased gradually as MHR increased. (12%, 33%, 52%, respectively, $p<0.001$). In the correlation analysis, age ($r= 0.326$ , $p<0.001$) and MHR ($r=0.347$ , $p<0.001$) were positively correlated with the number of vessels with critical stenosis. In the multivariate logistic regression analysis, age (hazard ratio: 1.052; 95% confidence interval: 1.020 - 1.085; $p = 0.001$), MHR (hazard ratio: 1.075, 95% confidence interval: 1.192 - 5.087; $p<0.001$) and diabetes mellitus (hazard ratio: 2.462 ; 95% confidence interval: 1.192 – 5.087; $p= 0.015$ ) were identified as independent predictors of multivessel disease (Table 1). Taking the MHR cut-off value ≥ 19.1 predicted multivessel disease in patients with acute coronary syndrome, with a sensitivity of 71.9% and a specificity of 61.8% (Figure 1).

CONCLUSIONS:

In our study, we found that MHR independently predicted multivessel disease in patients presenting with ACS. Supports that higher MHR in patients with coronary artery disease may be a predictor for the development and progression of multivessel disease and atherosclerosis, and for the resulting cardiovascular events. In this context, since MHR is effective in predicting multivessel disease, further intensification of preventive treatments in the healthy population, where this rate is higher, may be an effective strategy to prevent future cardiovascular events.

**Table 1.** Multivariate logistic regression analysis showing independent predictors of multivessel disease

| Variables | OR (% 95 CI) | p |
|---|---|---|
| Age | 1.052 (1.020 – 1.085) | 0.001 |
| Diabetes Mellitus | 2.462 (1.192 – 5.087) | 0.015 |
| Monocyte/HDL Ratio | 1.075 (1.036 – 1.116) | <0.001 |

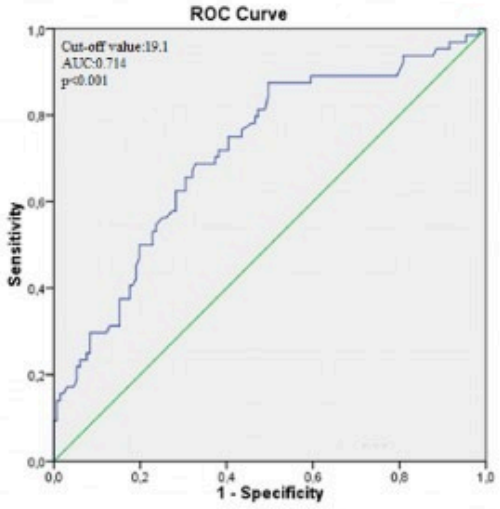


**Figure 1:** ROC (receiver operating characteristics) curve analysis of Monocyte/HDL Ratio (MHO) in predicting multivessel disease, In patients presenting with acute coronary syndrome, a cut-off value of MHO greater than >19.1 predicts multivessel disease with 71.9% sensitivity and 61.8% specificity, AUC: area under the curve

ID: **24**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Oral**

# DOES ATHEROGENIC INDEX PLASMA PREDICT CORONARY SLOW FLOW PHENOMENON IN PATIENTS UNDERGOING ELECTIVE CORONARY ANGIOGRAPHY?

**Mustafa KAPLANGORAY**

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Background: Although the pathophysiology of coronary slow flow (CSFP) is not fully known, data supporting endolethelial dysfunction and subclinical diffuse atherosclerosis in its etiology tend to increase in recent years.

Objective: Our aim in this study is to investigate the relationship between CSFP and atherogenic index of plasma (AIP).

Methods: For this study, 2550 patients who underwent elective coronary angiography in our center were retrospectively screened.The study sample consisted of 106 CSFP patients and 96 patients with normal coronary flow (NCF). The Thrombolysis in Myocardial Infarction (TIMI) frame count (TFC) was used to measure the coronary blood fow velocity. The mean TFC for each subject was calculated by summing the TFC for left anterior descending (LAD), right coronary artery (RCA), left circumfex (LCX) and, then, dividing this sum into 3. AIP was calculated as log (triglyceride/highdensity lipoprotein cholesterol) as stated in previous studies.

Results: The AIP, ratio of smokers (52.3 % vs 32.2 %, p=0.004), triglycerides (219.25 vs. 171.64, p<0.001), glucose (142.2 vs. 113.51, p<0.001), body mass index (BMI) (27.49 vs. 25.24, p<0.001), mean TFC values (34.0 vs 18.21, p<0.001) were higher, whereas high density lipoprotein cholesterol levels (HDL) (37.45 vs. 43.85, p<0.001) was significantly lower in the CSFP group compared to the NCF group. Multivariate logistic regression analysis was used to identify independent predictors of mean TFC. Log AIP, BMI, triglyceride, glucose, HDL and cigarette were shown to be independent factors for CSFP. Among these variables, AIP was found to be the strongest independent parameter for CSFP.The receiver operating curve (ROC) analysis revealed a cut-off point of 0,979 for AIP with a sensitivity of % 76 and a spesifity of % 74 for determination of mean TFC (AUC = 0,822, % 95 CI: 0,764-0,881).

Conclusion: AIP is an independent predictor factor for CSF. Larger studies are needed to elucidate the role of AIP in CSF pathophysiology.

ID: **27**

Topic: **Cardiology > Coronary artery disease - CABG surgery**

Presentation Type: **Oral**

# RELATIONSHIP BETWEEN FIB-4 SCORE AND COLLATERAL INDEX IN PATIENTS WITH CORONARY CHRONIC TOTAL OCCLUSION

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*[2]CARDİOLOGY, RİZE, Turkey*

Background: Non-alcoholic fatty liver disease (NAFLD); It is a disease characterized by abnormal fat accumulation in the liver, unrelated to alcohol use, its relationship with insulin resistance and its importance in risk and prognostic assessment in cardiovascular diseases have been shown in various studies. Chronic total occlusion (CTO) is mentioned when there is TIMI 0 flow in one of the coronary arteries after 3 months or more of complete occlusion. Coronary collateral circulation (CCD) occurs as a result of angiogenesis and expansion of pre-existing collateral vessels due to the pressure difference before and after narrowing of the coronary arteries. Coronary collateral development (CHG) is evaluated and evaluated according to the Cohen-Rentrop method in coronary angiography (CAG). In this study, we aimed to show the relationship between the FIB-4 score, which is used to evaluate fibrosis in non-alcoholic fatty liver disease, and the development of coronary collateral circulation (CCD).

Methods:In this retrospective cross-sectional study, hospital records of patients with chronic total in coronary angiography series between 2019-2021 were reviewed. The FIB-4 scores of 220 patients included in the study were evaluated before coronary angiography. Collateral circulation was evaluated according to the Rentrop collateral classification. Rentrop grades 0 and 1 were grouped as weak collateral, and grades 2 and 3 were grouped as good collateral. Routine blood tests of the patients were documented together with clinical risk factors, coronary collateral circulation class and atherogenic plasma indices.

Results: There was no significant difference between the two groups in terms of basic clinical findings. Except for triglycerides, there was no significant difference between laboratory parameters. There was no significant difference in FIB-4 score in both groups.

Conclusion: No significant correlation was found between the FIB-4 score and the degree of development of coronary collateral circulation in patients with chronic total occlusion.

Keywords: FIB-4 score; coronary artery disease; non-alcoholic fatty liver

| poor collateral group (n: 88) | well collateral group (n:132) | P value |
|---|---|---|

| | | | |
|---|---|---|---|
| Age (years) | 61,51± 10,91 | 64,30± 8,10 | 0,010 |
| Sex(n,%) males | 80(%90,9) | 112(%84,8) | 0,219 |
| Hypertension n(%) | 63 (% 71,6) | 81 (%61,4) | 0,148 |
| Diabetes mellitus n (%) | 37(%42) | 41(%31,1) | 0,114 |
| Hyperlipidemia n (%) | 38(%43,2) | 45(%34,1) | 0,202 |
| Smoking n(%) | 35(%39,8) | 36(%27,3) | 0,057 |
| Fasting glucose (mg/dl) | 163,47±89,39 | 143,90±62,26 | ,057 |
| Creatinine (mg/dl) | 1,25±1,22 | 1,03±0,48 | 0,762 |
| AST (U/L) | 40,64±53,41 | 34,31±38,59 | 0,309 |
| ALT(U/L) | 28,05±35,69 | 28,62±22,87 | 0,885 |
| Fasting HDL cholesterol (mg/dl)) | 40,70±16,17 | 43,12±10,02 | 0,172 |
| Fasting triglyceride(mg/dl) | 229,48±162,65 | 155,88±85,92 | <.001 |
| Fasting LDL cholesterol (mg/dl) | 129,88±47,07 | 126,74±43,16 | 0,610 |
| Hemoglobin (g/dl) | 13,87±1,79 | 13,92±1,80 | 0,780 |
| Platelet (103/mm3) | 244,61±80,9 | 242,44±76,85 | 0,841 |
| FİB-4 score | 2,65±4,21 | 2,19±2,57 | 0,320 |
| Left ventricular ejection fraction(%) | 47,05 ±10,39 | 50,10±10,16 | 0,028 |

Topic: **Cardiology > Preventive cardiology**

Presentation Type: **Oral**

# RELATIONSHIP BETWEEN SST2 LEVEL AND PREVALENCE OF CORONARY AND PERIPHERAL ATHEROSCLEROSIS: A TWO-YEAR COHORT STUDY

**Berna STAVILECI**

*Biruni University , Istanbul, Turkey*

Objective

Atherosclerosis is one of the leading causes of cardiovascular mortality and morbidity. To determine the prevalence and severity of atherosclerosis in patients undergoing coronary and lower extremity peripheral angiography we examined soluble suppression of tumorigenicity 2 (sST2).

Methods

In this prospective study we divided 196 patients into three group: Group 1: <50% coronary and peripheral stenosis (n=62); Group 2: <50% coronary and >50% peripheral stenosis (n=67); Group 3: >50% coronary and peripheral stenosis (n=67). sST2 levels were measured by the ELISA method. Patients were followed up for two years.

Results

Male gender ratio, dyslipidemia, and smoking rates were higher in Group 2 and Group 3 than in Group 1 (for all p<0.001). Average age (57.82±9.35, 55.88±12.33, 63.65±10.10), hypertension, diabetes mellitus, and mortality rate in the follow-up period (5.6%, 17.6%, 82.4%) were significantly higher, while left ventricular ejection fraction (LVEF) (59,53±3,66, 58,71±3,76, 50,55±7,77) was significantly lower in Group 3 than in other groups. Also, the sST2 value was higher in Group 3 (56.48±24.61 ng/L, 310.78±100.10 ng/L, 388.15±77.24 ng/L) compared to other groups (for all p<0.001). sST2 value was positively correlated with male gender, smoking, three-vessel coronary artery disease, arterial lesions above and below the knee, repetitive peripheral procedure, and mortality in the follow-up period (for all p<0.001). Whereas negatively correlated with LVEF (p<0.001). sST2 value >346.47 ng/L (AUC:0.822, sensitivity: 50.0%, specificity: 50.0%, p<0.001) was related with arterial lesions above the knee, sST2 value >338.39 ng/L (AUC:0.879, sensitivity: 50.0%, specificity: 50.0%, p<0.001) was related with arterial lesions below the knee. In the logistic regression analysis high sST2 value and low LVEF value were defined as independent risk factors for arterial lesions above the knee (p<0.001 and p:0.008, respectively), while high sST2 value and smoking were defined as independent risk factors for arterial lesions below the knee (p<0.001).

Conclusion

A high sST2 value indicates more extensive atherosclerosis and is associated with mortality within two years. Patients with high sST2 levels should be referred for coronary and peripheral angiography.

ID: **333**

Topic: **Cardiology > PI for SHD-Transcatheter aortic valve replacement**

Presentation Type: **Oral**

# THE PROGNOSTIC VALUE OF TRIGLYCERIDE GLUCOSE INDEX ON MORTALITY IN PATIENTS UNDERGOING TRANSCATHETER AORTIC VALVE IMPLANTATION

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Arka Plan

Transkateter aort kapak implantasyonu (TAVI), şiddetli semptomatik aort darlığı (AS) olan hastalarda nihai tedavidir. Trigliserit glukoz indeksi (TGI), kardiyovasküler hastalığı olan hastalarda yeni bir prognostik belirleyicidir. Bununla birlikte, TGI'nin mortalite üzerindeki etkisi hala tartışılmaktadır. TAVI uygulanan hastalarda TGI'nin mortalite üzerindeki prognostik rolünü araştırdık.

yöntemler

TAVI uygulanan toplam 192 ardışık semptomatik şiddetli AS hastası geriye dönük olarak değerlendirildi. Temel klinik, demografik ve prosedürel değişkenler kaydedildi. Daha sonra hastalar TGI skoruna göre iki gruba ayrıldı; TGI skoru düşük (<3.43) hastalar grup 1 (115 hasta) ve TGI skoru yüksek (>3.43) hastalar grup 2 (77 hasta) olarak belirlendi. Uzun süreli ölüm oranları kaydedildi.

Sonuçlar

ROC eğrisi analizi, 3,43'lük bir kesim değeri ile TGI'nin mortalite için iyi bir prediktif değere sahip olduğunu göstermiştir (AUC: 0.713; %95 CI: 0.631-0.794; p<0.001). Ortalama takip süresi 31±25.4 aydı. Hastane mortalitesinde [3 (%2,6)), 23 (%29,9); p<0,001] ve uzun dönem mortalite oranları [23 (%20,0)), 39 (%50,6); p<0,001] grup 2'de daha yüksekti. Çok değişkenli lojistik regresyon analizinde, TGI (OR:4.051; %95 GA: 2.074–7.913; p<0.001) ve STS-PROM skoru (OR: 1.163; %95 GA: 1.053–1.285; p=0.003) mortalitenin bağımsız öngördürücüleri olarak bulundu. Kaplan-Meier sağkalım analizi, TGI'si yüksek olan hastalarda uzun süreli sağkalımın anlamlı olarak azaldığını ortaya koydu (Log rank: p<0.001).
Sonuç

TGI, TAVI prosedürü uygulanan hastalarda mortalite üzerinde prognostik bir belirleyicidir.

ID: **336**

Topic: **Cardiology > Covid-19 and cardiology**

Presentation Type: **Oral**

# IS COVID-19 MORE SEVERE IN PATIENTS WITH CORONARY ARTERY DISEASE?

**Ercan KELEŞ**, Öcal BERKAN

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Objective: Coronary artery disease (CAD) is a common disease with high mortality. This study aims to understand how early period COVID-19 progresses in patients with CAD.

Methods: Between March 2020 and August 2020, 197 patients diagnosed with COVID-19 were retrospectively evaluated. Twenty-four of the patients had coronary artery disease, 22 of them had a history of coronary stenting, and 2 of them had a history of coronary artery bypass grafting. The severity of COVID-19 was defined as low oxygen saturation (below 90), need for oxygen support, low blood pressure, need for inotropic support, or need for intensive care unit (ICU) stay or death.

Results: Of the 197 patients, 12.2% (n=24) had CAD. Mean age was 42 years [standard derivation (SD) ±15] in the group without CAD and 69 years (SD ± 11) in the group with CAD. The mean age was significantly higher in the group with CAD ($p<0.001$). Of the patients with CAD, 13 (54.2%) were male. There was no statistically significant difference in gender between the groups with and without CAD ($p=0.795$). When assessing symptoms on admission, 13 (54.2%) of patients with CAD had shortness of breath, while 31 (17.9%) of patients without CAD had shortness of breath. ($p<0.001$) All patients with CAD were hospitalized compared to 63% in the other group ($p<0.001$). Median hospital stay was 7 days (IQR 7-23.5) in the group with CAD and 4 days (IQR 1-6 days) in the other group. When assessing the severity of COVID-19, 37.5% of patients with CAD had severe COVID-19 and 9.8% of patients in the other group had severe COVID-19 ($p=0.001$). Intensive care unit stay was required in 33.3% (n=8) of patients with CAD and in 5.2% (n=9) of the other group ($p<0.001$). While 12.5% of patients with CAD died, 2.9% of patients in the other group did ($p=0.059$).

Conclusions: In our study, patients with CAD had a more severe COVID-19 course than patients without CAD. Clinicians should keep in mind that patients with a history of coronary artery disease may require more and longer stays in an intensive care unit. The importance of vaccination should be reiterated, particularly in this age group.

**Oral Presentation Session**

**Tumors and Unpredictable Issues in Cardiac Surgery**

**Date: 04.12.2022 Time: 11:45-12:45 Hall: 5**

ID: **266**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Oral**

# Pericardial tamponade, a diagnostic chameleon: from the historical perspectives to contemporary management

**Ann-sophie KAEMMERER**[1], Khaleel ALKHALAILEH[1], Mathieu N. SULEIMAN [1], Markus KOPP[2], Christine HAUER[2], Matthias S. MAY[2], Michael UDER[2], Michael WEYAND[1], Frank HARIG[1]

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Background: Pericardial tamponade (PT) early after cardiac surgery, is a challenging clinical entity, not infrequently misrecognized and often only detected late in its course. Because the clinical signs of pericardial tamponade can be very unspecific, a high degree of initial suspicion is required to establish the diagnosis. In addition to clinical examination the deployment of imaging techniques is almost always mandatory in order to avoid delays in diagnosis and to initiate any necessary interventions, such as pericardiocentesis or direct cardiac surgical interventions. After a brief overview of how knowledge of PT has developed throughout history, we report on an atypical life-threatening cardiac tamponade after cardiac surgery. A 74-year-old woman was admitted for elective biological aortic valve replacement and aorto-coronary-bypass grafting (left internal mammary artery (LIMA) to left descending artery (LAD), single vein graft to right coronary artery (RCA)). On the 10th postoperative day, the patient unexpectedly deteriorated. She rapidly developed epigastric pain radiating to the left upper abdomen, and features of low peripheral perfusion and shock. There were no clear signs of pericardial tamponade either clinically or echocardiographically. Therefore, for further differential diagnosis, a contrast-enhanced computed tomography (CT) scan was performed under clinical suspicion of acute abdomen. Unexpectedly, active bleeding distally from the right coronary anastomosis could be revealed. While the patient was prepared for operative revision, she needed cardiopulmonary resuscitation, which was successful. Intraoperatively, the source of bleeding was located and surgically relieved. The further postoperative course was uneventful.

Conclusions: In the first days after cardiac surgery, the occurrence of life-threatening situations, such as cardiac tamponade, must be expected. Especially if the symptoms are atypical, the entire diagnostic armamentarium must be applied to identify the origin of the complaints, which may be cardiac, but also non-cardiac.

Central message: A high level of suspicion, immediate diagnostic confirmation, and rapid treatment are required to recognize and successfully treat such an emergency.

Perspective: Pericardial tamponade should always be considered as a complication of cardiac surgery, even when symptoms are atypical. The full range of diagnostic tools must be used to identify the origin of the complaints, which may be cardiac, but also non-cardiac.

ID: **267**

Topic: **Cardiovascular Surgery > Risk management in cardiovascular diseases**

Presentation Type: **Oral**

## Anaphylactic Reaction in Systemic Mastocytosis - a Serious Complication after the Administration of Protamine in Cardiac Surgery

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**Background**: Systemic mastocytosis is a rare, non-curable disease with potential life-threatening complications in patients receiving cardiac surgery.

**Case summary:** This is a report of a 66-year-old woman who suffered from a life-threatening anaphylactic reaction during cardiac surgery which was related to her systemic mastocytosis. The patient was electively admitted for conventional biological aortic valve replacement because of severe aortic valve stenosis. Intraoperatively, the patient developed an anaphylactic shock during the administration of protamine after separation from cardiopulmonary bypass. This anaphylaxis reaction was a complication of the pre-existing systemic mastocytosis and could be successfully managed by administration of epinephrine, antihistamines, and corticosteroids. To the best of our knowledge, protamine is not discussed to be causal for an anaphylactic reaction in such patients.

**Conclusion**: This case report highlights the importance of careful preoperative planning, as well as coordination between cardiac surgeons, anesthesiologists and hemato-oncological specialists, in patients with rare but complication-prone diseases such as systemic mastocytosis.

ID: **221**

Topic: **Cardiovascular Surgery > Pediatric cardiac surgery**

Presentation Type: **Oral**

# CARDIAC MASS RESECTION: SINGLE CENTER EXPERIENCE

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*Başkent University, Konya, Turkey*

**Cardiac Mass Resection: Single Center Experience**

**OBJECTIVE**

Pediatric cardiac mass are tumors, thrombi, pericardial cysts, congenital cardiac aneurysms and diverticulas. They are extremely rare in children. Biopsy and histologic diagnosis are standart for any neoplasm but they are rarely necessary in pediatric cardiac tumor or mass. Indication for surgical intervention is obstruction of blood flow, embolisation, recurrence, severe valvular obstruction or regurgitation with hemodynamic compromise and arrhythmia. The aim of this study is to present patients who were operated for cardiac mass in our center.

**METHODS**

Cardiac mass excision was performed in 5 of 1087 operations between September 2016 and August 2022 in our clinic. All patients underwent detailed physical examination, laboratory tests, and transthoracic echocardiography.

**RESULTS**

Three of the patients were male and two were female. The mean age of the patients was 39 days (4-79 days). The mean weight of the patients was 4 kg (2.7-5.4 kg). The main symptom was dyspnea in two patients and cardiac murmur in two patients. One patient was asymptomatic. The indication for surgery was obstruction in three patients and the risk of embolism in two patients. The cardiac mass location was right atrium in two patients, left atrium in one patient, right ventricle in one patient, and left ventricle in one patient. Cardiac mass pathology was diagnosed as rhabdomyoma in three patients and thrombus in two patients. Complete surgical resection was performed in all patients. Mean cardiopulmonary bypass time was 65 minutes (60-75 minutes) and mean cross clamp time was 41 minutes (33-48 minutes). There was no mortality. All patients were discharged. The mean hospital stay was 11 days (7-21 days).

**CONCLUSIONS**

Pediatric cardiac mass are extremely rare. Echocardiography is the gold standard in diagnosis. Computed tomography and cardiac magnetic resonance imaging are often used to further characterize the mass to facilitate diagnosis and guide treatment. Biopsy and histologic diagnosis are rarely necessary in pediatric cardiac mass. The indication for surgery depends on hemodynamic compromise. Complete surgical resection is essential treatment for cardiac mass. Benign cardiac mass resection has a low mortality.

ID: **52**

Topic: Cardiology > Cardiac imaging - Echocardiography

Presentation Type: **Oral**

# Right Atrial Mass- A Very Rare Presentation of Endometrial Cancer Metastasis

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**Objective:** Endometrial cancer (EC) is a common gynecologic malignancy. The most common metastasis sites of EC are pelvic lymph nodes followed by retroperitoneal lymphnodes. Approximately 5 % of the patients suffered at least one site of distant metastasis such as liver , bone and brain. In the literature, cardiac metastasis of EC is extremely rare and we report a case of 47 year old woman with right atrial metastasis of endometrioid adenocarsinoma.

**Methods:** On initial examination, there was no distinctive cardiac exam findings. Transthoracic Echocardiography showed an irregular mass inside the right atrium. Transosephageal Ecocardiography was was planned to obtain more precise images and to establish any vascular or valvular connections of the tumor, which came back with no particular involvement. Cardiac MRI showed a hypervascular mass with right atrial lateral wall involvement which is more likely to be malignant in nature. The tumor was successfully removed with right atrium lateral wall and pericardial patch was placed in the site of excised atrium **(Figure 1)**.

**Results:** The patient had an uneventful recovery after the surgery and discharged home. A systemic therapy was planned by our oncology department.

**Conclusions:** Hematogenous spreading to unexpected organs and the possibility of rare metastatic foci should always be taken into account when assessing and staging rapidly growing tumors. Multidisciplinary approach along with multimodality imaging methods have been quite beneficial in management of this rare case.


**Figure 1.** Echocardiographic image of the metastasis and also intraoperative image of tumor and the pericardial patch.

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ID: **169**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Oral**

# A CASE WITH GRISCELLI SYNDROME PRESENTING WITH INTRACARDIAC MASS: FIRST IN LITERATURE

**Yasin GUZEL**, Mustafa Kemal AVSAR, Anıl ATMIS, Ahmet SEZER, Ezgi CAY, Fadli DEMIR, Onur BENLI, Mehmet Şah TOPCUOGLU, Derya Ufuk ALTINTAS

*Cukurova University, Adana, Turkey*

Introduction: Rare autosomal recessive condition known as Griscelli Syndrome can result in immunodeficiency, hypopigmentation of the skin and hair (silver hair), large melanin clustering in hair strands, and melanosome aggregation in melanocytes. There has never been a prior report in the literature associating intracardiac mass to Griscelli syndrome in a patient. We intended to present a case of Griscelli Syndrome with an intracardiac mass in this article.

Case: The patient was admitted to our center in November 2021 at the age of 4 years and 5 months with complaints of respiratory distress. On the first day of admission, the patient's physical examination revealed hypopigmented gray hair, coarse rales in the right middle lobe of the lung, no heart murmur, a palpable liver 3 cm below the ribcage, and a closed traube's space. Chest X-ray showed the most infiltration in favor of pneumonia in the right middle lobe. Griscelli syndrome was considered primarily, and melanin clusters were seen when the hair fibers were examined under the microscope.

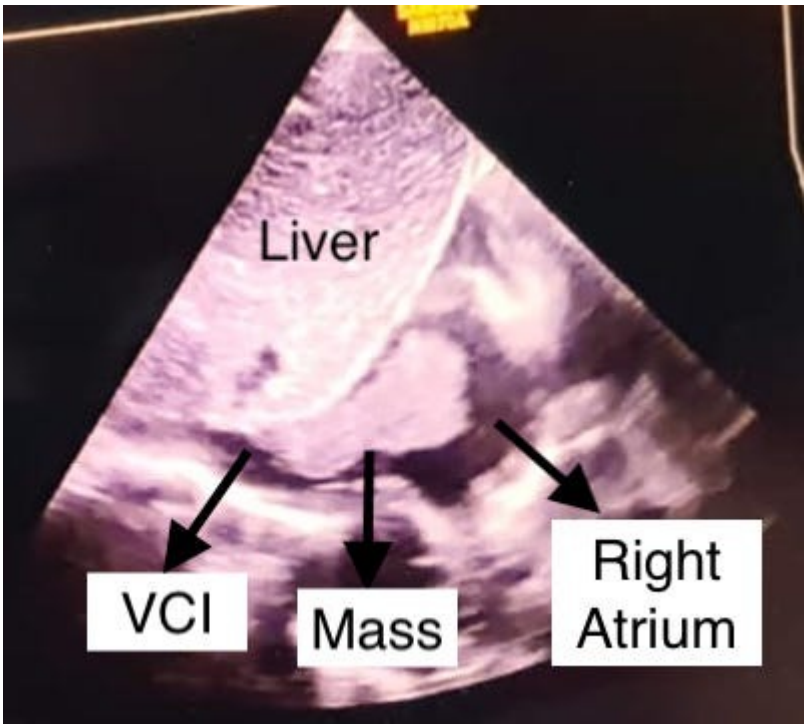
After Doppler USG showed an intracardiac mass, the patient underwent emergency echocardiography. A well-circumscribed, homogeneous-stemmed 33*18 mm hyperechogenic mass originating from the area where the hepatic veins opening at the junction of the inferior right atrium of the vena cava and extending into the right atrium and prolapsed into the right ventricle was seen in the subcostal bicaval echocardiography.(Figure 1) The patient was operated due to intracardiac mass.

The patient was taken into operation. Cardio-pulmonary bypass was initiated by cannulation of the aorta and superior venacava. Right atriotomy was performed. A mobile mass with a stalk extending from the inferior venacava to the right ventricle was seen. (Figures 2,3) The mass was resected from the inferior vena cava and sent to pathology.(Figure 4)

The biopsy result sent to pathology was reported as a fibrin mass compatible with thrombus.

Discussion and Conclusion:

Type 1 Griscelli syndrome has more neurological symptoms than Type 2, Type 3 lacks systemic signs, and Type 1 has more immunological symptoms than Type 2. Patients with this disorder may also experience hemophagocytic lymphohistiocytosis, recurrent infections, and central nervous system involvement. In these patients, thrombosis and benign or malignant tumors are not common findings. We intended to present Griscelli in this research in a rather different presentation.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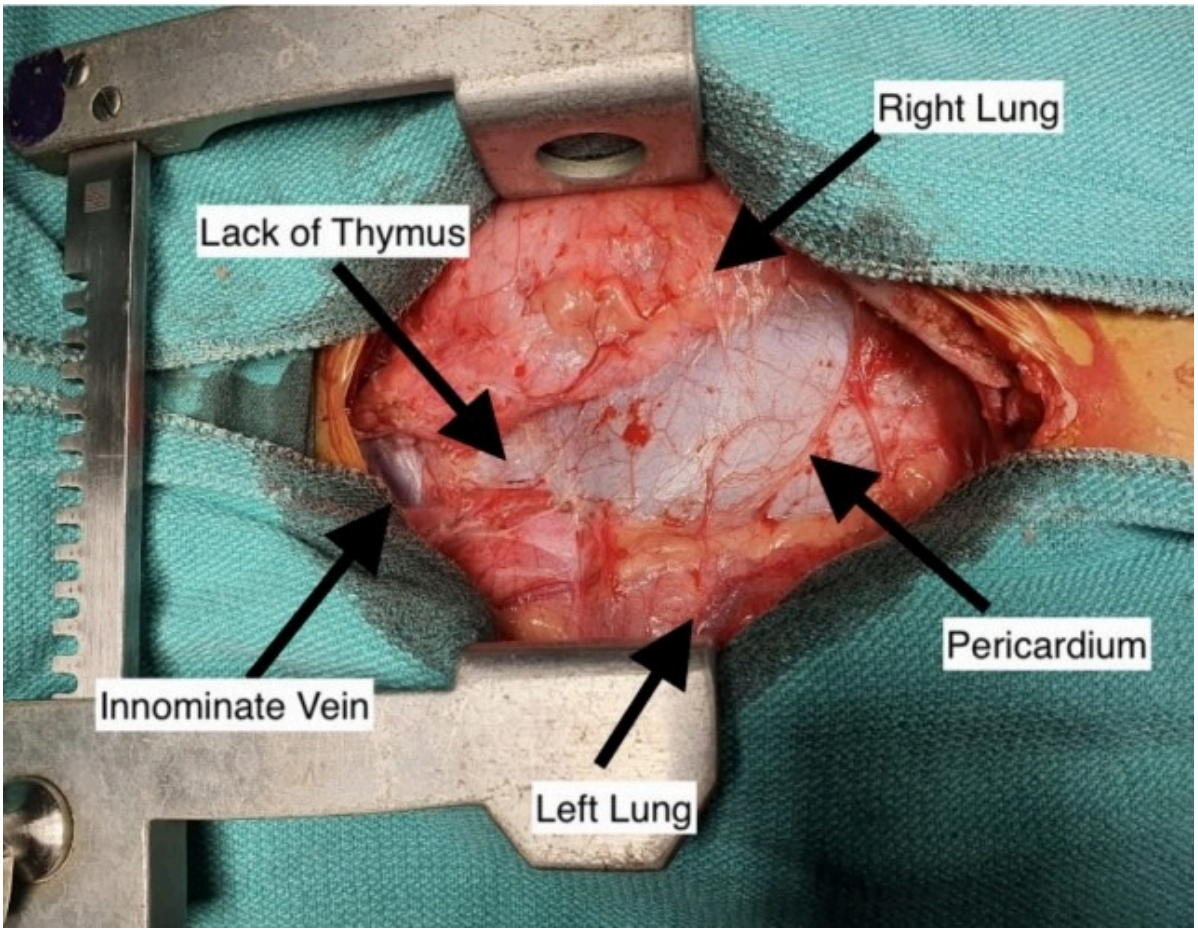
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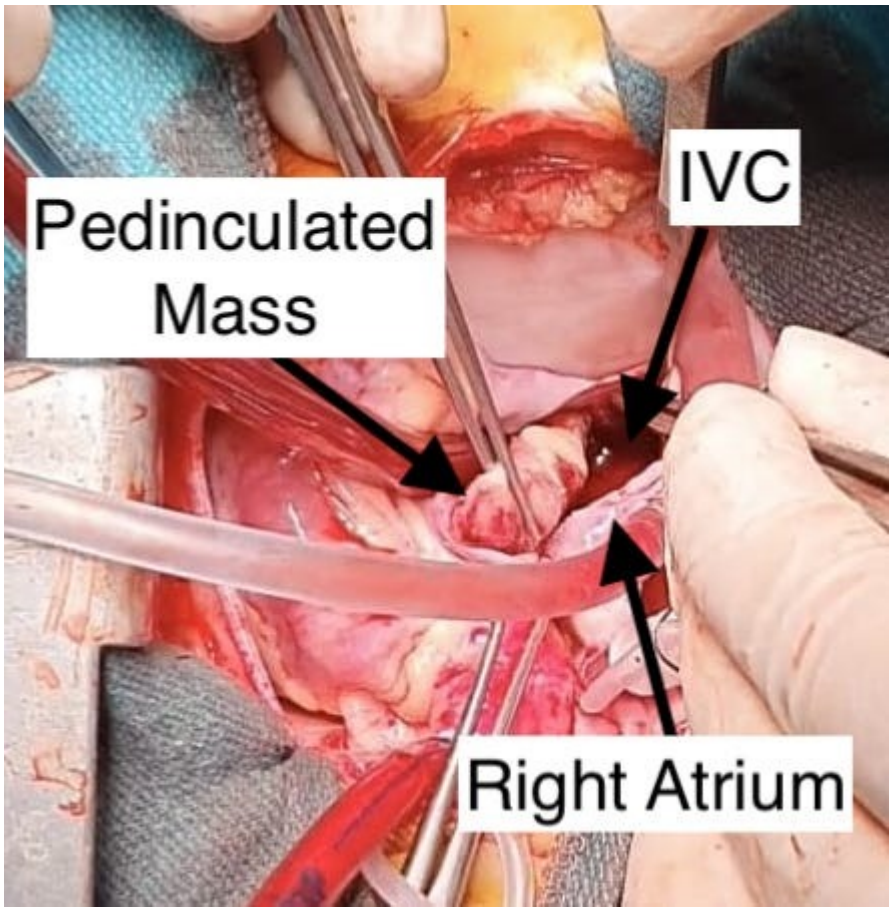
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ID: **342**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of valvular heart disease**

Presentation Type: **Oral**

# PINBALL-LIKE MOBILE LEFT ATRIAL MASS OBSTRUCTING LEFT VENTRICULAR OUTFLOW TRACT

**Adem Ilkay DIKEN**

*Baskent University, Faculty of Medicine, ADANA, Turkey*

Aim: We sought to present an unusual case of intracardiac mass causing the new onset of dyspnea and palpitation. Furthermore, we present the importance of rapid evaluation and treatment to avoid lethal complications.

Case: A 58-year-old female with a past medical history of aortic and mitral valve replacement performed 14 years ago, presented with new onset of dyspnea and palpitation. No stroke or embolic event was documented. She was under routine follow-up for anticoagulation with effective levels of internal normalized ratio and former echocardiographic evaluations were reported as normal (the most recent report was from two years ago). The new transthoracic echocardiography revealed a large freely mobile round mass moving freely in the left atrium (LA), which was partially prolapsing into the left ventricle (LV) (Video 1). Both mechanical valve prostheses were normally functioning while the native tricuspid valve was severely regurgitating. The patient underwent surgical removal via the transseptal approach. The spherical pink-colored and smooth-surfaced mass seemed like an organized thrombus formed in layers with a viscous central zone with palpation (Figure 1). The tricuspid valve was repaired using the band annuloplasty technique. Histological examination of the mass revealed features consistent with thrombus. The postoperative course was uneventful and the patient was discharged on the sixth postoperative day.

Discussion: The differential diagnosis for an intra-cavitary cardiac mass includes thrombus, myxoma, lipoma, and non-myxomatous neoplasm [1]. Among these, myxomas and thrombus are the leading causes of left-sided masses. Cardiac myxomas typically appear as a mobile mass attached to the endocardial surface by a stalk, usually arising from the fossa ovalis[2]. Cardiac thrombi appear more frequently than cardiac myxomas and are typically located more often in the LA or LAA. The presence of an organic heart disease such as mitral valve disease, non-valvular atrial fibrillation, severe LV dysfunction, and other causes of atrial contractile failure support the diagnosis of cardiac thrombi [3]. Both reasons have a potential risk for systemic embolism or occlusion of the mitral orifice. Echocardiographic evaluation is the keystone of the diagnosis. Although there is not a definite criterion for the distinction between the two diagnoses, myxomas are commonly detected as a mobile mass attached to the endocardial surface by a stalk, usually arising from the fossa ovalis. In some circumstances, the definite diagnosis of the mass may only be done following the histological examination as in our case.

Conclusion: New-organized mobile thrombus is a serious concern in patients with previous valvular surgeries even though their follow-up was uneventful. Therefore, patients with a heart valve prosthesis should be more strictly checked to prevent hazardous clinical scenarios which may generate in a very short period of time. New onset of symptoms addressing the left ventricular tract obstruction should be kept in mind to start up a fast treatment process.

ID: **208**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# CARDIAC HYDATID CYST OF THE INTERVENTRICULAR SEPTUM COMPLICATED BY 03RD DEGREE ATRIOVENTRICULAR BLOCK IN A PREGNANT WOMAN: A CASE REPORT.

**Redha LAKEHAL**

*Department of heart surgery Dr Djaghri Mokhtar, 02 cité les freres Boukhalkhal Constantine, Algeria*

**Introduction:** Cardiac localization of hydatid disease is rare (< 3 %) even in endemic countries. Affection characterized by a long functional tolerance and a large clinical and paraclinical polymorphism. Serious cardiac hydatitosis because of the risk of rupture requiring semi-urgent surgery. The diagnosis is based on serology and echocardiography. The aim of this work is to show a case of cardiac hydatid cyst involving the interventricular septum complicated by AVB in a pregnant woman.

**Methods:** We report the observation of a 38-year-old patient, pregnant at the 32nd week of amenorrhea, thyroidectomy 04 years ago but without any particular pathological history, nor notion of hydatid contagion and who has presented for 02 months of bradycardia in a feverish context. Chest x-ray: normal-sized heart. ECG: 3rd degree atrioventricular block. Hydatid serology is positive. Echocardiography: cystic mass, measuring 3.2/2.4 cm in large diameter at the level of the upper part of the slightly hyperechoic interventricular septum with a thick wall void of echo near the conduction pathways. Chest MRI showed an aspect suggestive of hydatid heart disease. Abdominal echography: unremarkable apart from an active pregnancy. Intraoperative exploration: hydatid cyst involving the upper part of the interventricular septum with protruding dome at the level of the right atrium in tricuspid septal juxta annular. Gesture: removal of the membrane and daughter vesicles, sterilization of the pericardial cavity and the residual cystic cavity and finally resection of part of the peri cyst and padding of the residual cavity.

**Results:** The postoperative course was relatively simple. She received a permanent pacemaker implantation.

**Conclusion:** Certain rhythm and conduction disturbances can appear and be sometimes inaugural in the interventricular septal locations of hydatid heart disease. Lipothymic or syncopal discomfort may be the mode of revelation of hydatid heart disease.

**Keywords:** Hydatid cyst of the heart, pregnancy, AVB, surgery, cardiopulmonary bypass, prevention.

ID: **192**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# SURGERY OF HEART SARCOMA WITH INVASIVE MITRAL VALVE : A CASE REPORT.

**Redha LAKEHAL**

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years with no sex predilection. Patients present after variable periods of symptoms which are often non-specific, ranging from few weeks to several months and almost all are symptomatic at presentation .The diagnostic is made by imagery and pathological study .This new report case is an opportunity for us to make a reminder of this little-known entity among cardiologists and heart surgeon.

Methods: We report the case of 39 year old lady presented with 2 months history of acute onset dyspnea, lethargy weight loss, night sweats, and malaise. Clinical examination, blood tests and chest x ray were unremarkable. Her echocardiogram showed a large 3, 8 × 2, 4 cm echogenic multiple masses in left atrium with moderate mitral regurgitation. . Infiltrating the left atrial wall and mitral valve. A curative resection was deemed impossible. At surgery a large tumor was found arising from the left atrial side. It was solid in consistency and had a wide base. It was partly extending to mitral valve. The tumor was resected as completely as possible and mitral valve replacement under cardiopulmonary bypass.

Results: The immediate postoperative course was simple. At pathology, heart sarcoma was diagnosed. She underwent chemotherapy.

Conclusion: Heart surgery is the treatment of choice for sarcoma. The malignant tumors of the heart have a worse prognosis. Cardiac sarcomas generally lead to death within 2 years of diagnosis, due to rapid infiltration of the myocardium of the heart and obstruction of the normal flow of blood within the heart.

Key words: Sarcoma,tumor,surgery ,cardiopulmonary bypass.

ID: **193**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# RECURRENT CARDIAC HYDATID CYST LOCATED NEAR THE ENTRANCE OF THE SUPERIOR VENA CAVA AND THE INTERATRIAL SEPTUM: A CASE REPORT.

**Redha LAKEHAL**

*Department of heart surgery Dr Djaghri Mokhtar, 02 cité les freres Boukhalkhal Constantine, Algeria*

Introduction: Cardiac localization of hydatid disease is rare (<3%) even in endemic countries. Affection characterized by a long functional tolerance and a large clinical and paraclinical polymorphism. Serious cardiac hydatitosis because of the risk of rupture requiring urgent surgery. The diagnosis is based on serology and echocardiography. The aim of this work is to show a case of recurrent cardiac hydatid cyst discovered incidentally during a facial paralysis assessment.

Methods: We report the observation of a 26-year-old woman operated on in 2012 for pericardial hydatid cyst presenting a cardiac hydatid cyst located near the abutment of the VCS discovered incidentally during an exploration for left facial paralysis. : NYHA stage II dyspnea. Chest x-ray: CTI a 0.48. ECG: RSR. Echocardiography: Image of cystic appearance at the level of the abutment of the VCS.SAPP: 38mmhg. FE: 65% Thoracic scan : 30/27 mm cardiac hydatid cyst bulging the lateral wall of the right atrium and the trunk of the right pulmonary artery with fissured cardiac hydatid cyst of the apical segment of the right lung of the right lower lobe with multiple bilateral intra parenchymal and sub pleural nodules. The patient was operated on under CPB. Intraoperative exploration: Presence of a hard and whitish mass, about 03 / 03cm developed in the full right atrial wall opposite the entrance to the superior vena cava. Procedure: Resection of the mass removing the roof of the LA, the AIS and the wall of the LA with reconstruction of the roof of the LA by patch in Dacron and reconstruction of the AIS and the wall of the LA by a single patch in Dacron.

Results: The postoperative consequences were simple.

Conclusion: The hydatid cyst is still a real endemic in Algeria, the cardiac location is rare but serious and can constitute a real surgical emergency, hence the importance of prevention.

Keywords: Hydatid cyst of the heart, recurrence, surgery, extracorporeal circulation, prevention.

ID: **277**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# SURGERY OF CARDIAC HYDATID CYST OF LEFT VENTRICULAR WALL : A CASE REPORT.

**Abderrahmene BABOURI**

*Ehs Djaghri mokhtar Constantine, Constantine, Algeria*

Introduction: It is extremely rare 0.5-2% in all hydatid cases. Although it is generally asymptomatic. The diagnosis might be difficult on account of varying clinical presentations and non specific symptoms. Serious complications such as pericardial tamponade, pulmonary embolism. Surgical excision is the preferred treatment. This new report case is an opportunity for us to make a reminder of this little-known entity.

Methods: We report the case of 55 year old lady was admitted to our hospital who presents persisant fever and dyspnea. Physical exam revealed nothing unusual. A chest radiograph showed a cardiomegaly. Computed tomography and magnetic resonance imaging Thoracic CT don't realizable. An echocardiography revealed a large cyst in the posterior wall of left ventricular measured 55/50 mm. ELISA was positive for echinococcus. We decided to excise the hydatid cyst. The patient underwent median sternotomy and was placed on cardiopulmonary bypass. The left atrium was vented. Sponges soaked with hypertonic saline solution were distributed throughout the pericardial cavity. Don't found a cyst at the time of opening the left atrium chamber but after dislocated of heart. We aspirated the entire contents of the cyst, removed its germinative membrane, and washed the cavity with hypertonic saline solution .Capitonnage was performed, and the incision was closed with the use of Teflon felt.

Results: The immediate postoperative course was simple. At the routine follow-up examination 2 months postoperatively, the patient was in NYHA functional class I, with no trace of cysts on echocardiography.

Conclusion: Patients who have cardiac echinococcosis can present with a variety of clinical manifestations. Cardiac hydatid cyst should be considered, particularly in endemic regions, in the differential diagnosis of patients with chest pain.

Key words: Cardiac hydatid cyst, Echinococcus granulosus, surgery, cardiopulmonary bypass.

**Oral Presentation Session**

**Understanding Carotid Vascular Surgery**

**Date: 04.12.2022 Time: 13:00-14:15 Hall: 5**

ID: **56**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

# A SUCCESSFUL SURGICAL REPAIR OF A GUNSHOT INJURY TO THE LEFT COMMON CAROTID ARTERY WITHOUT NEUROLOGICAL DEFICIENCY : A CASE REPORT

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A B S T R A C T

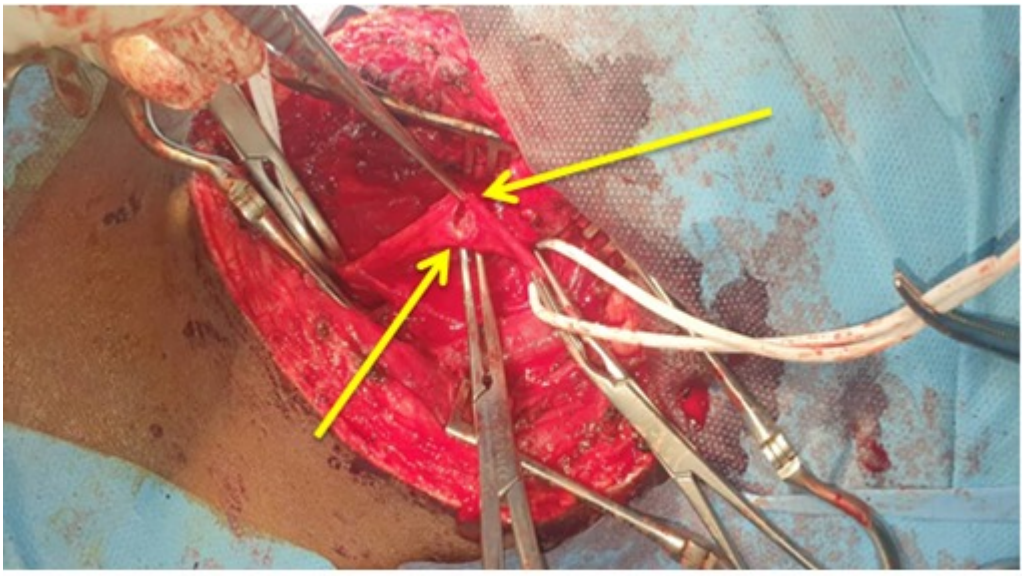
BACKGROUND: Penetrating neck trauma is serious and has a high fatality rate, especially in individuals who suffer injuries to the common carotid artery. The mortality rates for penetrating neck trauma are estimated to be 3%–6%. Accidents that cause a lot of blood to flow, like being stabbed, shot, or hurt in a car accident, can cause a person to lose a lot of blood quickly and in a short amount of time, which can be fatal if not treated

right away.

Clinical presentation: we present a 26-year-old young male patient with penetrating neck trauma caused by a gunshot. The gunshot entered the right sternocleidomastoid muscle at the level of the hyoid bone and exited the
left sternocleidomastoid muscle on the mid side.

Clinical discussion: In a recent report on the management of major vascular injuries to the neck, carotid artery injuries accounted for about 17% of all patients presenting with penetrating neck injuries. In this case, previously
published literature adds that carotid artery injury early surgical and primary repair in young patients has a good
outcome.

Conclusion: Considering the high morbidity and mortality associated with penetrating neck injuries, In young patients, they can be successfully managed with early surgical and primary repair with a good outcome.



(Fig.2) Left common carotid artery injured area (Yellow arrows).

ID: **159**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

# SURGICAL TREATMENT OF PATIENTS WITH VERTEBRO-BASILAR INSUFFICIENCY

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SURGICAL TREATMENT OF PATIENTS WITH VERTEBRO-BASILAR INSUFFICIENCY

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Material and methods. The results of treatment of 78 (100%) patients with VBI syndrome who were hospitalized at the Republican Specialized Center for Surgical Angioneurology from 2021 to 2022 were analyzed. All patients depending on the tactics of treatment were divided into 3 groups. group 1 - 30 (38.5%) patients who underwent stenting of the 1st segment of the vertebral artery, group 2 - 28 (35.9%) patients who underwent carotid endarterectomy as a treatment method, group 3 - 20 ( 25.6%) of patients who received conservative treatment. Patients of the 3 groups were comparable in terms of sex and age. All these patients had hemodynamically significant stenoses (more than 65%) in segment I of the vertebral and carotid arteries. Of these, signs of chronic dyscirculation in the VBB were identified in 24 patients (31%), transient ischemic attacks in the VBP were observed in 19 patients (24%), and in 35 patients (45%) a history of ischemic stroke in the VBP was verified. With conservative treatment, patients received nootropic drugs, antioxidants, neuroprotectors, antihypertensive drugs, and two-component antiplatelet and anticoagulant therapy. If a hemodynamically significant lesion of the carotid arteries (more than 70% stenosis) and preserved blood flow in the ipsilateral posterior communicating artery were detected, the patients underwent carotid reconstructions of the carotid arteries.

Results: The follow-up period averaged 24.6±8.8 months (from 6 months to 3 years). After conservative therapy, 15 (76%) patients showed clinical improvement - regression of VBI symptoms, disappearance of dizziness and unsteadiness when walking, but after 4-6 months these symptoms reappeared. In 5 (24%) patients, no clinical improvement was found after conservative therapy. Among 28 patients who underwent carotid reconstruction of the carotid artery, a clinical improvement in symptoms and velocity parameters of blood flow through the posterior communicating artery was observed in 24 (86%) patients. The rest 4 (14%) patients of this group showed no changes in the VBI clinic. Among patients who underwent stenting of segment I of the vertebral arteries, in 27 (91%) cases, a persistent clinical improvement was observed, manifested in a decrease or disappearance of the VBI clinic during the follow-up. In 3 (9%) patients after X-ray endovascular intervention, no significant clinical improvement was found, although with TCDS they had an increase in the blood flow velocity in the basilar artery.

Conclusions: 1. Indications for endovascular treatment of segment I of the vertebral arteries, as it gives a good clinical effect in patients with VBI, should be expanded. 2. When determining indications for carotid reconstruction in patients with VBI, the conditions of the circle of Willis should be taken into account.

ID: **161**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

# POSSIBILITIES OF TRANSCRANIAL DUPLEX SCANNING IN THE DETERMINATION OF TOLERANCE OF THE BRAIN IN BILATERAL LESIONS OF THE CAROTID ARTERIES

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POSSIBILITIES OF TRANSCRANIAL DUPLEX SCANNING IN THE DETERMINATION OF TOLERANCE OF THE BRAIN IN BILATERAL LESIONS OF THE CAROTID ARTERIES

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Republican Specialized Center for Surgical Angioneurology

Purpose: Comparative analysis of the results of the assessment of cerebrovascular reserve (CVR) performed in the preoperative period using transcranial duplex scanning (TCDS) with intraoperative data in patients with bilateral lesions of the carotid arteries.

Materials. In the period 2021-2022, the Republican Specialized Center for Surgical Angioneurology studied the results of examination and treatment of 78 (100%) patients with bilateral hemodynamic significant lesions of the carotid arteries. The patients were divided into 2 groups. The first (control) group included 35 (44.8%) patients who underwent reconstructive surgery on the carotid arteries according to intraoperative data. The second (main) group included 43 (55.2%) patients who underwent reconstructive surgeries with preoperative CVR assessment performed with the probe of Matas test using TKDS.

Results. Full compliance of the preoperative CVR assessment data with intraoperative data was observed in 54 (90.0%) cases. At the same time, in 42 (70.0%) patients on MSCT, the circle of Willis was closed (the presence of all communicating arteries), in 3 (5%) patients, a non-functioning anterior communicating artery was detected on MSCT, in 10 (16.6%) patients the presence of both posterior communicating arteries was revealed, in 5 (8.3%) patients the presence of a homolateral posterior communicating artery was revealed. The above patients underwent surgery without an intra-arterial shunt. A discrepancy between the preoperative assessment of CVR performed with the Matas test using TKDS and intraoperative data was obtained in 4 (6.6%) cases (false-negative information); in these patients, an intra-arterial shunt was used intraoperatively. Upon careful study of MSCT of intracranial arteries in these patients, the communicating arteries were either critically stenotic or hypoplastic. "False positive" information was obtained in 2 (3.3%) cases. At the same time, the sensitivity of the preoperative assessment of the CVR for the comparative group of patients was 85.2%, the assessment of the functioning of the communicating arteries was 95.3%, the determination of the direction of blood flow was 92.7%, and the type of blood flow was 91.5%. The specificity was 95.4%.

Conclusions. For the preoperative assessment of brain tolerance to ischemia, TKDS with a probe of Mathas test is the optimal method. The results of TKDS using the Matas test quite accurately determine the indications for the use of an intra-arterial shunt in the preoperative period. TKDS has such advantages as non-invasiveness, accessibility, mobility, no radiation exposure, examination speed, easy duplication of studies.

ID: **162**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

# LONG-TERM RESULTS OF CAROTID STENTING IN PATIENTS WITH HIGH SURGICAL RISK

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LONG-TERM RESULTS OF CAROTID STENTING IN PATIENTS WITH HIGH SURGICAL RISK

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Objective: to evaluate the long-term results of carotid artery stenting in patients with high surgical risk.

Materials and methods: an analysis of the long-term results of stenting of the internal carotid artery was carried out in 30 (100%) high-risk patients who were operated on at the RSCS and RNPMCK Karshini branch. The indications for surgery were: asymptomatic stenosis of the internal carotid artery (ICA) over 75%, symptomatic stenosis over 50%. Previous ischemic stroke was noted in 6 (20%) patients, transient ischemic attacks were present in anamnesis - in 7 (23.3%), discirculatory encephalopathy - in 16 (53.3%), and only 2 (6.7% ) of the patient were asymptomatic. Stenosis of the right ICA was diagnosed in 11 (36.7%) patients, of the left ICA in 16 (53.3%). In 3 (10%) cases there was a bilateral hemodynamically significant lesion of the ICA. According to the results of clinical and instrumental research methods, concomitant coronary heart disease was diagnosed in all patients, in 5 (16.7%) patients, damage to three vascular beds, carotid arteries, coronary arteries and arteries of the lower extremities was detected.

Results: In the late postoperative period, according to the results of DS, in 90% of cases reconstruction was without signs of thrombosis and restenosis with stable hemodynamics, and in 10% of cases, early neointimal hyperplasia of a hemodynamically insignificant nature was detected, while thrombosis was not observed. In all patients, hemodynamics with improvement in LBF in the ICA increased from 35 cm/sec to 96 cm/sec. In the late postoperative period, AMI without Q wave was observed in 1 (3.3%) cases, after conservative therapy, ECG showed positive dynamics. In 1 (3.3%), IS was also observed after therapy with the restoration of the neurological status. Mortality was not observed. All patients showed an improvement in hemodynamics in the CA after reconstruction, as well as a positive clinical effect.

Conclusions: Stenting of the carotid arteries is the best alternative before open surgery, especially in patients with coronary artery disease, angina pectoris, FC 3 and 4, as well as in patients with combined lesions of the carotid and coronary arteries, while performing the first stage of stenting the carotid arteries makes it possible to perform coronary revascularization without neurological complications.

ID: **158**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

# COMPARATIVE EVALUATION OF IMMEDIATE RESULTS OF SURGICAL TREATMENT OF ISCHEMIC HEART DISEASE AND DEFEATS OF BRACHIOTCEPHALIC ARTERIES

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Comparative evaluation of immediate results of surgical treatment of ischemic heart disease and defeats of brachiotcephalic arteries

Tashkent Medical Academy

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Alidzhanov H.K.,Muminov R.T., Djalilov.A.A

Objective: comparison of the immediate results of coronary artery bypass grafting (CABG) with simultaneous stenting of the internal carotid artery (ICA) and CABG in conjunction with simultaneous carotid endarterectomy (CEA) in patients with concomitant hemodynamically significant atherosclerotic lesions of coronary and brachiocephalic arteries (CA and BCA).

Material and methods: in the period from 2020 to 2021 in the Republican special center of surgical angionevrology 52 patients with associated atherosclerosis of CA and BCA performed simultaneous operations on the carotid and coronary arteries basins.

ICA stenting and CABG was performed in one day consequentially («one-step» method). Endovascular interventions were carried out in X-ray operation room. ICA stenting is performed under local anesthesia with femoral access using protection from distal embolization.

CEA follows conventional procedure with cardiopulmonary bypass. Before coronary stage in all cases, as the patch was used xenopericard. Coronary bypass surgery was performed under normothermic blood circulation and blood cardioplegia by A.M.Calafiore.

Results: in I group was dominated patients with angina pectoris functional class (FC) II - 69.2%, compared with 30.8% in group II ($p<0.05$) and in group II found more patients with angina pectoris FC III - 64.1%, compared with 30.8% in group I ($p<0.05$). Group I patients had more severe degree of chronic cerebrovascular insufficiency: ischemic stroke in anamnesis - 53.8%, compared with 12.8% in group II ($p <0.05$).

I group was less than the average length of operation (179,6±6,4 minutes against 273,2±5,6 minutes in group II) ($p<0.001$) and a shorter time of cardiopulmonary bypass - 75,9 ± 4 5 minutes vs. 115,2±3,8 minutes in group II ($p<0.001$).

Hospital mortality was 12.8% (5 patients), all of the dead belonged to group II. Acute myocardial infarction (MI)-3 (7.6%) cases, one patient (2.5%) died of progressive organ failure on the background of an acute cerebrovascular accident; another cause of death was mesenteric artery thrombosis (2.5%). In I group patients had no fatal complications.

Conclusions: 1. Surgical treatment of hemodynamically significant stenoses of CF and DCA increase the survival of patients suffering from this disease, reduce the incidence of coronary and cerebral circulation.

3. A differentiated approach to the treatment of patients with concomitant atherosclerotic lesions of hemodynamically significant coronary artery and carotid and timely correction can significantly reduce the incidence and severity of cardiac complications, stroke, improve the results of surgical treatment.

ID: **294**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

# PROGNOSTIC VALUE OF CONTROLLING NUTRITIONAL STATUS (CONUT) SCORE TO PREDICT 30-DAY OUTCOME IN PATIENTS UNDERGOING CAROTID ENDARTERECTOMY

**Veysel BAŞAR**

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Abstract

Introduction

The effect of malnutrition on carotid endarterectomy(CEA) outcomes is unclear. This study evaluates the relationship between malnutrition and postoperative 30 days major adverse events with the Controlling nutritional status (CONUT) score which is one of the nutrition scores.

Material and methods

Between 2012 and 2020, a total of 69 patients who performed CEA were included the study. Data was collected retrospectively. CONUT score was calculated. Transient ischemic attack(TİA), stroke, and mortality compared.

Results

According to the CONUT score % 10 patients were moderate and severe, %17 were mild, and %79 were absent malnourished. Four patients had TİA, stroke, and mortality. CONUT score showed the high predictive ability (C-index: 0.701).
Conclusion

According to our study, the CONUT score showed the high predictive ability to evaluate postoperative 30 days outcomes in carotid endarterectomy patients.

ID: **179**

Topic: **Cardiovascular Surgery > Endovascular surgery**

Presentation Type: **Oral**

# MID-TERM RESULTS OF LEFT SUBCLAVIAN ARTERY REVASCULARISATION FOR ZONE 2 THORACIC ENDOVASCULAR AORTIC REPAIR (TEVAR)

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OBJECTIVE

Thoracic Endovascular Aortic Repair (TEVAR) is the preferred method for descending thoracic aortic pathologies. Left subclavian artery (LSA) coverage is an established method of increasing the healthy proximal landing zone for lesions close to the arterial orifice. LSA revascularization before TEVAR is recommended.

We investigate the mid-term results of the patients with LSA revascularisation and TEVAR.

METHODS

A total of thirteen patients with different thoracic aortic pathologies were operated on with TEVAR and LSA revascularisation between April 2019 and August 2022. The majority of the patients were male (n:11, %84,6) and the average age was 55,62 years (SD±13,56). Eight patients suffered from thoracic aortic aneurysm (TAA), and five had Type B aortic dissection (TBAD). Eleven patients were operated on left carotid to LSA bypass with ringed PTFE grafts prior to TEVAR, 1 patient was operated on after TEVAR because of vertebrobasilar insufficiency and 1 patient was operated on with physician-modified fenestrated TEVAR and LSA stenting. The mean follow-up time is 553 days (SD±341,36). Computerized tomography angiography (CTA) was performed at 1 and 12th months for all patients, and yearly for TBAD patients if there weren't any pathologic findings like endoleaks, new onset dissections, etc. in the first scans.

RESULTS

The graft patency rate at follow-up CTA at 1 month and 1 year was 100%. There wasn't any graft occlusion in the TBAD patients' yearly CTA scans. Both radial and ulnar pulses were palpable at yearly physical examinations for all patients. Early cerebrovascular accident was seen in only 1 patient with a history of ventricular shunt and the lesion was subarachnoidal bleeding on the contralateral hemisphere. She became ambulatory with physical therapy after 2 months and died 2,5 years after the operation, not related to the aneurysmal disease. One (7,7%) patient had local hematoma, and 1 (7,7%) patient had seroma, 2 (15,4%) patients had temporary numbness of the neck, all healed without reintervention.

CONCLUSIONS

Our result revealed that LSA revascularization with carotid-subclavian bypass is a safe, practical, and reproducible technique and leads to a wider spectrum of thoracic aortic aneurysms and type B aortic dissections to be treated by TEVAR.

ID: **219**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

# EVALUATION OF THE INFLAMMATION-ASSOCIATED GENE EXPRESSION LEVELS BETWEEN THE ASYMPTOMATIC CAROTID ARTERY STENOSIS PATIENTS WITH ULCERATED AND SMOOTH PLAQUES: A PILOT STUDY

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OBJECTIVE: Carotid artery plaques are divided into smooth, irregular, or ulcerated based on surface morphology. Unlike the plaques with smooth surfaces, ulcerated plaques are associated with vulnerable features responsible for stroke or transient ischemic attacks in patients with carotid artery stenosis (CAS). Despite various diagnostic methods, new biomarkers using minimally invasive approaches are needed for earlier and more accurate detection of patients with high-risk carotid artery plaques. This study aimed to analyze biomarkers that can determine plaque morphologies by evaluating the inflammation-associated gene expression levels in blood and plaque samples of asymptomatic CAS patients.

METHODS: A total of seven asymptomatic CAS patients, 42.9% (n=3) of whom had ulcerated and 57.1% (n=4) of whom had smooth plaques, were included in the study. After determining the elasticity of the plaque by doppler ultrasonography, peripheral blood samples were taken from the patients before carotid artery endarterectomy. Then, total RNAs were isolated from the blood and resected plaque samples of the patients to evaluate the expression levels of inflammation-associated genes, including *INF-γ, TNF-α, MCP1, VCAM-1, ICAM-1, IL-1β, IL-6, IL-18*, and *IL-8*.

RESULTS: The mean age of the CAS patients was 64.14 ± 8.7 years. 71.4% (n=5) of the patients were female, and 28.6% (n=2) were male. In our patients, the degree of carotid artery stenosis was 70% and greater. The expression levels of inflammation-associated genes in the blood and plaque materials of asymptomatic CAS patients with ulcerated plaques were compared to those with smooth ones. There was an 8.48-fold (p=0.04) significant increase in the expression levels of *IL-1β* in plaque samples of the patients with ulcerated plaques. In these patients, the expression levels of *VCAM-1* and *TNF-α* decreased by 26.94- and 3.46-fold in plaque samples, and the expression levels of the same genes were reduced by 3.13- and 3.00-fold in the blood samples.

CONCLUSION: Although validation in larger groups is required for the risk stratification in asymptomatic CAS patients based on plaque surface morphology, the findings of our pilot study suggest that *IL-1β, VCAM-1*, and *TNF-α* genes may be potential blood-based biomarkers due to the compatible expression levels in blood and plaque.

ID: **341**

Topic: **Cardiovascular Surgery > Diagnosis and treatment of carotid artery disease**

Presentation Type: **Oral**

# ANALYSIS OF BLEEDING FOLLOWING CAROTID ENDARTERECTOMY

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OBJECTIVE: Carotid artery stenosis is one of the main causes of cerebral stroke. Carotid endarterectomy is still the most important technique for treatment. We aimed to reveal the factors which cause major bleeding and need for reoperation in patients treated with carotid endarterectomy and the primary closure technique.

METHODS: Data of 97 patients who received conventional carotid endarterectomy and primary closure at our clinic between 2015 and 2020 were retrospectively analyzed. In line with these data, situations that could lead to major bleeding after surgery such as preoperative blood thinner drug use history, preoperative and postoperative complete blood counts, bleeding times and comorbid diseases were examined.

RESULTS: Four of 97 patients included in the study (4.1%) were reoperated. Among these patients, 2 (50%) were receiving only anticoagulant treatment, while the other 2 (3.1%) were receiving only antiplatelet treatment. The difference between two groups was statistically significant. When the postoperative first day and total drain amounts of the patients in reoperated and nonreoperated group the difference was found significant (Table 1)

CONCLUSIONS: In our study, while no significant relationship could be found between antiplatelet use in the preoperative period and the prevalence of major bleeding, it was revealed that use of anticoagulant drugs for any reason in the preoperative period may lead to postoperative major bleeding even though the treatment has been stopped before surgery. History of preoperative anticoagulant drug used in patients taken in for reoperation is an issue that needs to be examined and paid attention to.

| | **Antiplatellet only (n=63)** | **Anticoagulant only (n=4)** | **Anticoagulant + Antiplatellet (n=7)** | **P Value** |
|---|---|---|---|---|
| **Drainage - First day (cc)** | 28,78 ±17,54 | 100,00±119,23 | 33,75±12,5 | 0,001a |
| **Drainage - Total (cc)** | 52,34±35,95 | 131,25±107,57 | 43,75±17,5 | 0,001a |
| **Reoperation (n) (%)** | 2 (3.1%) | 2(50%) | 0 | 0,001b |

a One-Way ANOVA test
b Pearson's Chi Square test

**Poster Session**

ID: **7**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

## COMPARATIVE EVALUATION OF THE RESULTS OF CAROTID STENTING AND CAROTID ENDARTERECTOMY.

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Objectives. The problem of multifocal atherosclerosis is currently extremely relevant. Such complications of multifocal atherosclerosis as coronary heart disease (CHD) and ischemic stroke (IS) are the main causes of death and disability in the developed countries.

The purpose of the study: a comparative analysis of the results of stenting and carotid endarterectomy for stenosis of the carotid arteries.

Material and methods. For the period from 2015 to 2019, 42 stents of the internal carotid artery (ICA) with brain protection filters (CAS) were performed, which made up the first (I) group of patients. The second group (n=42) consisted of patients who underwent open interventions on the carotid arteries (CEAE). The average age of patients in group I was 64.5±6.9 years (from 46-77 years), in group II - 62.9±7.7 years (from 47 to 80 years). Both groups were dominated by male patients (n=29/69.7% in the CAS group and n=27/64.4% in the CEAE group).

Results. Cerebral circulation disorders in the form of transient ischemic attack (TIA) or acute cerebrovascular accident were observed in 4 (9.5%) patients in the CAS group, in the CEAE group, the development of TIA on the side of the operation was noted in 3 (7.1%) , and IS developed in 1 (2.4%) case, which may indicate the same safety of both methods.

Findings. Based on the results of the hospital observation period, we can conclude about equal safety for CAS and CEAE in patients with hemodynamically significant carotid stenoses.

ID: **8**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

## OUR EXPERIENCE WITH TREATMENT OF CORONARY HEART DISEASE COMBINED WITH MITRAL VALVE INCOMPETENCE

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Combined valve and coronary arteries disease is an actual problem of modern cardiac surgery. Mortality in case of combined surgical correction of the mitral valve (MV) and coronary artery bypass grafting (CABG) is 7-18%, which significantly exceeds hospital mortality in isolated coronary artery bypass (CABG) - 2% and isolated correction of mitral valve pathology - 4-7% (H. McGill, M. Stem, 2010). Adequate surgical repaire of mitral valve is not a complete solution to the issue of comorbidity. Isolated mitral valve replacement in patients with concomitant coronary artery disease increases operative mortality up to 29%.

Material and methods. We analyzed the case reports of patients from hospital registry operated on in the period from 2019 to 2021 in Republican research Centre of Emergency Medicine. The study group included patients with coronary artery disease with concomitant pathology of the mitral valve. The total number of patients was 25, (14 (56%) men and 9 (36%) women). The type of mitral valve disease was determined according to the Carpantier classification. The distribution of patients according to the etiological cause of the mitral valve was as follows: rheumatic mitral valve disease with a predominance of stenosis in 13 (52%) patients; ischemic mitral valve disease in 12 (48%) patients.

Results. in all cases, combined operations were performed. In 4 (16%) cases coronary artery bypass grafting and mitral valve Alfieri edge-to- edge repair were performed. Coronary artery bypass grafting and mitral valve replacement were performed in 21 (84%) patients (St.Jude, OnX). Thrombosis of the left atrium was detected in 10 (40%) of patients examined. All patients with thrombosis underwent thrombectomy from the left atrium and suture reduction of the left atrial appendage. Hospital mortality was 3.9% (1 case). The main cause of death was severe heart failure that developed in the early postoperative period.

Findings. Analyzing the results of our study, we can assume that combined surgeries are the method of choice in the treatment of combined mitral valve and coronary artery disease, which allows to achieve satisfactory results with relatively low mortality.

ID: **9**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

# MINIMALLY INVASIVE DIRECT CORONARY ARTERY BYPASS FOR THE TREATMENT OF ISOLATED DISEASE OF THE LEFT ANTERIOR DESCENDING CORONARY ARTERY

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INTRODUCTION. In the early 1960s the first reports on successful aortocoronary bypass operations for the treatment of coronary artery disease were published. Ever since, coronary artery bypass grafting (CABG) has become one of the most frequently performed operations worldwide and has been continuously refined and developed. Off-pump surgery and minimally invasive procedures have evolved to minimize the surgical trauma associated with CABG. Calafiore et al. first described a left internal mammary artery to left anterior descending coronary artery anastomosis via a small left anterior thoracotomy on the beating heart in 1996 and since then, minimally invasive CABG has been gaining wide acceptance in clinical practice, with many groups attempting to improve the procedure. Although it is not a new technique, minimally invasive direct coronary artery bypass (MIDCAB) is performed only by a few surgeons in our country.
AIM. Evaluate the benefits of minimally invasive direct coronary artery bypass in patients with isolated disease of the left anterior descending coronary artery

MATREIALS AND METHODS. in this retrospective observational study 24 patients with isolated LAD stenoses operated from March 2014 to March 2022 at the Republican research center of emergency medicine were included.

RESULTS. There were eleven (45,8%) males and thirteen (54,2%) females. The mean age was 60,2 years. Nine (37,5%) patients had normal

left ventricular function (ejection fraction >60%), nine (37,5%) patients had moderate left ventricular dysfunction, and six (25%) patients had severe left ventricular dysfunction (ejection fraction <40%). Single-vessel disease and myocardial bridging were present in sixteen patients (67%) and eight patients (33%), respectively. Fourteen patients (58%) had a history of an acute myocardial infarction.
The operative characteristics. Was performed standard left anterolateral minithoracotomy incision in the fourth or fifth intercostal space. There were no conversions nor to on-pump or sternotomy. None of these patients suffered a myocardial infarction or any other major complications. Blood transfusion was required in five patients.
Early postoperative outcomes. The median stay in the intensive care unit and in the hospital were 23 hours and 5 days, respectively. There was no early mortality or rethoracotomy for postoperative bleeding. There were no cerebrovascular events. Atrial fibrillation was observed in 5 patients (20,8%). All patients were extubated on the day of surgery.

CONCLUSIONS. The results of our study suggest that MIDCAB is a safe and effective in patients with isolated single-vessel diseases and myocardial bridges.

ID: **10**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

# RESULTS OF TOTAL ARTERIAL MYOCARDIAL REVASCULARIZATION IN PATIENTS WITH MULTIVESSEL CORONARY ARTERY DISEASE

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**The purpose of the study:** to study the immediate and intermediate results and effectiveness of auto-arterial coronary bypass grafting.

**Materials and methods.** From 2017 to 2021 in the Department of Cardiac Surgery, Republican research Centre of Emergency Medicine 50 operations of autoarterial myocardial revascularization were performed. The age of patients was ranged from 37 to 68 years (mean 54 years).Men - 35 people (70%), women - 15 people (30%).

In the short term after the operation (from 1 month to 6 months), 38 (64.4%) patients were examined. We studied the indicators of clinical efficacy, echocardiographic indicators of contractility of the left ventricle.

**Results.** The left internal mammary artery was used in all cases. The largest number of interventions was performed on the anterior descending artery 94±0.2%. According to the number of performed anastomoses: 5 vessel bypasses were performed in 1 (2%) patients, 4 vessel - in 3 (6%) patients, 3 bypasses in 4 (8%) patients, 2 bypasses in 8 (16%) patients, and 1-vessel bypass in 34 (68%) patients. The revascularization index in patients was 1.6. In total, the ejection fraction before surgery was 44-58%; and after surgery - 55-64%. Positive dynamics of ECG parameters in standard leads was observed in 82.6% of cases.

According to the survey (complaints and clinics), none of the patients had a clinic of recurrent angina pectoris.

**Conclusion:** Surgical revascularization of the coronary arteries in patients with multivessel coronary artery disease leads to an improvement in the metabolism of myocardial regions and, as a result, contributes to an increase in the total LV ejection fraction, which in almost 98% of cases allows to achieve satisfactory results with zero mortality.

ID: **13**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

# THE FIRST EXPERIENCE OF REGIONAL THROMBOLYTIC THERAPY FOR ACUTE ILEOFEMORAL VENOUS THROMBOSIS

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Purpose: to evaluate the results of regional thrombolytic therapy in patients with acute ileofemoral venous thrombosis.

During February-March 2022, two patients with acute ileofemoral venous thrombosis were treated at the Department of Vascular Surgery and Microsurgery in the Republican research centre of emergency medicine. Both patients were female, aged 65 years, both were admitted with a clinic of acute ileofemoral venous thrombosis of the day before, tense edema was noted in the local status, with a difference in permimeters on the thigh above 7 cm, on the lower leg - 5 cm. Both patients underwent standard examinations ( blood tests,blood biochemistry, ECG, chest X-ray). One patient underwent MSCT phlebography, which showed the transition of the proximal part of the thrombus to the inferior vena cava. Both patients received standard conservative therapy. One of the patients had type 1 diabetes and received insulin. Both patients had hypertension and obesity as comorbidities.

Regional thrombolytic therapy (RTT) was performed according to the standards. An introducer was installed in the veins of the leg, through which a catheter was inserted and X-ray contrast phlebography was performed, in which both patients had thrombosis of the common iliac veins on the left. After phlebography, a thrombolytic drug (alteplase) was introduced through the catheter into the thrombus mass: first, 5 mg as a bolus, and then at a dose of 1 mg/hour, so that the total amount of the administered drug was 50 mg. The effectiveness of RTT was assessed by daily ultrasound of the veins of the lower extremity. Selective infusion of thrombolytic drugs was carried out for 1.5 days. After thrombolytic therapy, both patients in the department continued heparin therapy on a perfusomate under the control of activated partial thrompoblastin time APTT. Both patients, after preliminary elastic bandaging of the lower extremities, were activated.

In the immediate post-manipulation period, one of the patients had minor epistaxis, which did not require discontinuation of thrombolytic therapy and anticoagulants to stop it. On the 8th day after the start of therapy in the first patient on Doppler ultrasound (DU), a complete restoration of vein patency was noted. The patient was discharged in a satisfactory condition, with the appointment of oral anticoagulant therapy with Rivaroxaban at a dose of 20 mg per day.

In the second patient, after thrombolytic therapy, the formation of a massive retroperitoneal hematoma with a decrease in hemoglobin level to 60 g/l was noted. The patient was transferred to the intensive care unit, where the transfusion of erythrocyte mass and fresh frozen plasma (FFP) was performed. On the 3rd day the patient was transferred to therapy with low molecular weight heparin. At discharge, the patient's retroperitoneal hematoma persisted, but did not increase in dynamics and there was no need for surgical treatment. At discharge, the second patient, according to the DU, achieved partial sewerage (30% patency), but with a good clinical picture. There was a significant decrease in edema, negative symptoms of Homens and Moses, and with a difference in perimeters of no more than 3 cm at the level of the thigh. The patient was discharged in a relatively good condition,

In conclusion, it can be said that local thrombolytic therapywith the use of embolic protection agents, in which their dose is lower, the efficiency is higher, and the danger is less, may be the method of choice for the treatment of Post-thrombophlebitic syndrome.

ID: **25**

Topic: **Cardiovascular Surgery > Thoracic aortic aneurysm and dissection**

Presentation Type: **Poster**

## Teflon Felt Sandwich Technique in the Treatment of Acute Type A Aortic Dissection Accompanied by Severe Aortic Valve Insufficiency; No touch to the valve

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OBJECTIVE: Acute type A aortic dissection is a life-threatening clinical situation with high mortality rates. Aortic valve insufficiency frequently accompanied to this disease. Despite the developments in the medical area, surgical intervention has difficulties especially in sinus of valsalva involvement. Long operation time and bleeding are the major problems. Aim of this study is evaluating the preoperative and postoperative degree of the aortic valve insufficiency in patients with type A aortic dissection operated by using teflon felt sandwich technique without touching to the aortic valve.

METHODS: Between January 2016 and January 2021, 126 patients with type A aortic dissection accompanied by severe aortic valve insufficiency operated by using teflon felt sandwich technique without aortic valve repair or replacement were included to this study. Degree of the aortic valve insufficiency was compared before and the after operation with echocardiography according to the guidelines of American Society of Echocardiography.

RESULTS: All the patients included to the study had severe aortic insufficiency before operation and dissected segment of the patients were limited to the ascendant aorta. Postoperative mortality rate was 6.3% (n=8). According to the results of the echocardiography findings performed postoperative first day and first month six of the patients had asymptomatic mild aortic regurgitation while no patients had severe or moderate aortic regurgitation.

CONCLUSIONS: Type A aortic dissection and accompanied severe aortic valve insufficiency can be treated by using teflon felt sandwich technique with low duration of operation and satisfactory improvement of the aortic valve functions. Cost effectiveness in the terms of not to use a valve for replacement and anticoagulant drugs after the operation are the additional advantages of this therapy.

ID: **30**

Topic: **Cardiovascular Surgery > Risk management in cardiovascular diseases**

Presentation Type: **Poster**

## RIGHT ATRIAL MYXOMA IN A PATIENT WITH ANTIPHOSPHOLIPID SYNDROME: CASE REPORT

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Cardiac masses occupy space within the heart cavities or adjacent to the pericardium. They include tumor-like lesions such as calcifications, clots, and vegetations, benign tumors such as myxomas, or malignant primary or metastatic tumors. (1) Among these, myxomas, the most common type of primary heart tumors, are usually localized in the left atrium, and right atrial myxoma is rarely seen. (2) On the other hand, systemic diseases such as Systemic lupus erythematosus (SLE) accompanied by the antiphospholipid syndrome are usually associated

with thrombotic conditions. (3) For this reason, mass finding, especially in the right atrium, is expected to be a thrombus in these patients. There are a limited number of cases in the literature in which right atrial myxoma and antiphospholipid syndrome coexist.

This case report presents a rare right atrial myxoma in a young female patient diagnosed with SLE accompanied by antiphospholipid syndrome. We hope these and similar cases can guide clinicians in their approach to atrial masses.

ID: **44**

Topic: **Cardiovascular Surgery > Peripheral artery disease and treatment**

Presentation Type: **Oral**

# Catastrophic Complication After Transradial Coronary Angiography: Limb Loss

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Abstract

Objective: Radial artery is one of the intervention cites for coronary angiography and has an increased tendency according to the successful results in the literature. However, some undesirable clinical situations may occur by using this route as with every invasive intervention. In this study it is aimed to present a patient whose arm was amputated after coronary angiography despite multiple limb-saving interventions.

Methods: A 64 year-old male patient was underwent coronary angiography due to chest pain. He had left upper limb ischemia following transradial angiography.
Results: An intimal flap with an approximate length of 15 cm was removed during embolectomy from the brachial artery. Limb loss occurred after axillo-brachial bypass by using saphenous vein following multiple embolectomy procedures.

Conclusions: As a result, the radial and femoral access locations are alternatives for each other in coronary angiography. The radial artery has some disadvantages due to reasons such as thin diameter and tendency to spasm so the repair of the complications occurring due to the same causes may not be pleasant. Complication occurrence due to transradial access would be decreased when performed by professionals with an adequate experience of radial access on suitable patients.

Fig 1: Nearly 15 cm flap removed during embolectomy

ID: **46**

Topic: **Cardiology > Transcatheter mitral valve repair and replacement**

Presentation Type: **Poster**

# PERCUTANEOUS MITRAL CLEFT REPAIR WITH MITRACLIPS- INTERESTING OWL EYE OF MITRAL VALVE

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Aim:

In this case report we aimed to explain an 73 years old male patient who had an coronary artery bypass greft surgery (CABG) 10 years ago and recently have recurrent pulmonary odeama due to severe mitral regurtiation with cleft treated with mitraclip procedure.

Case: 73 year old male patient admitted to emergency room with short of breathness , dispnea and orthopnea. On his physical examination s3, severe pansystolic murmur and ralles at the upper lobes has been heard . Due to pulmonary odeama we hospitilised him and after intravenus diuretics he recovered . He had reccurent pulmonary odeama history and he suffers that his life quality decreased due to reccurent hospital admission . He also had chronic pulmonary obstuctive disease(COPD) and he is using bronchodilatators regularly . Electrocardiography showed normal sinusal rhtyhm and old inferior myocardial infarction . On echocardiography there was enlarged left atrium , moderate left ventricle dysfunction(Ejection fraction:%40), severe mitral regurtitation. Transoesephageal echocardiography showed severe mitral regurtitation and mitral cleft on posterior mitral valve . Coronary angiography was performed: There was severe stenotic lesion in left anterior descending artery, circumflex and right coronary artery, and saphenous and LIMA bypass grefts were patent . We discussed this patient with cardiac surgeons, cardiologists and anesthesiologists in heart team . Because of old history of CABG and patent LIMA and saphenous grefts and COPD history cardiac surgeons didn't want to perform redo open heart surgery and the EUROSCORE was 14. Due to recurrent pulmonary odeama, frequent admission to emergency room, has been having COPD , history of old coronary artery bypass surgery and decrease of quality of life due to frequent hospital admission and old age, high Euroscore heart team recommend him mitraclip procedure with high risk . Recent meta-analysis showed that both surgery and MitraClip demonstrates a similar safety profile and shorter length of stay in high-risk patients .
We talk with family and patient and informed them about mitraclip and risks. After getting informed constent patient taken to catheter laboratory . Before 2 days of procedure we gave IV diuretics bronchodilators and oksygen to decrease cardiac and lung related operation risks. Under general anesthesia patient entubated and mitraclip procedure done. 7 FR sheath inserted and then septostomy performed 3.7 cm away from mitral valve because low entrance of left atrium from septostomy would decrease the succes of mitraclip procedure . Under 3 dimensional guidance of TEE 2 mitraclip inserted succesfully and an interesting view of mitral valve showing ''owl eye'' documented with 3D echocardiography . Colour doppler showed mild mitral regurtitation. Also with x ray we documented mitraclips .
After succesfull treatment of severe mitral regurtitation with mitraclip procedure patient extubated and discharged from the hospital. His frequent hospital admissions stopped and recovered well with recovered tiredness and short of breathness. His admission to hospital is just for regular controls with no cardiac or lung problems . In the literature showned that percutaneous mitral valve clip repair may provide a survival advantage, at least during the first 1 to 2 years, particularly in medically managed chronic functional mitral regurgitation.
Discussion : Patients with severe mitral regurtitation and additional risk factors such as old age, COPD, old CABG operation, Low EF, and high Euroscores are at high risk of death and decreased low quality of life. When there is old CABG history and patent LIMA cardiac surgeons afraid of complications due to redo sternotomy and gave harm to LIMA which can be damaged during sternotomy and fibrotic changes between pericardium and sternum . On the other hand anasthesists are afraid of COPD patients due to respiratuar complications during periprocedural and postprocedural times. Fort the recent techonolgy with percutaneous mitral valve procedures such as mitralclip succes rates are increasing . Unfortunately mitraclip devices are not user friendly and learning curves are long so need procters . on the other hand patient choose should be done correctly to get good results and also heart team and family should be involved all together and get awareness of all risks including death. Surgical double orifice technique has been discussed in the literature which we get ''owl eye'' view with percutaneous mitraclip procedure in severe mitral valve regurtitation(2). In this case report we discussed a patient who had an interesting view of ''owl eye'' after a succesfull percutaneous mitraclip procedure with severe mitral regurtitation .

ID: **49**

Topic: **Cardiology > PI for SHD-Others**

Presentation Type: **Poster**

# LEFT SUBCLAVIAN STENTING : IMAGING FROM THE FEMORAL AND RADIAL ARTERIES

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Case :

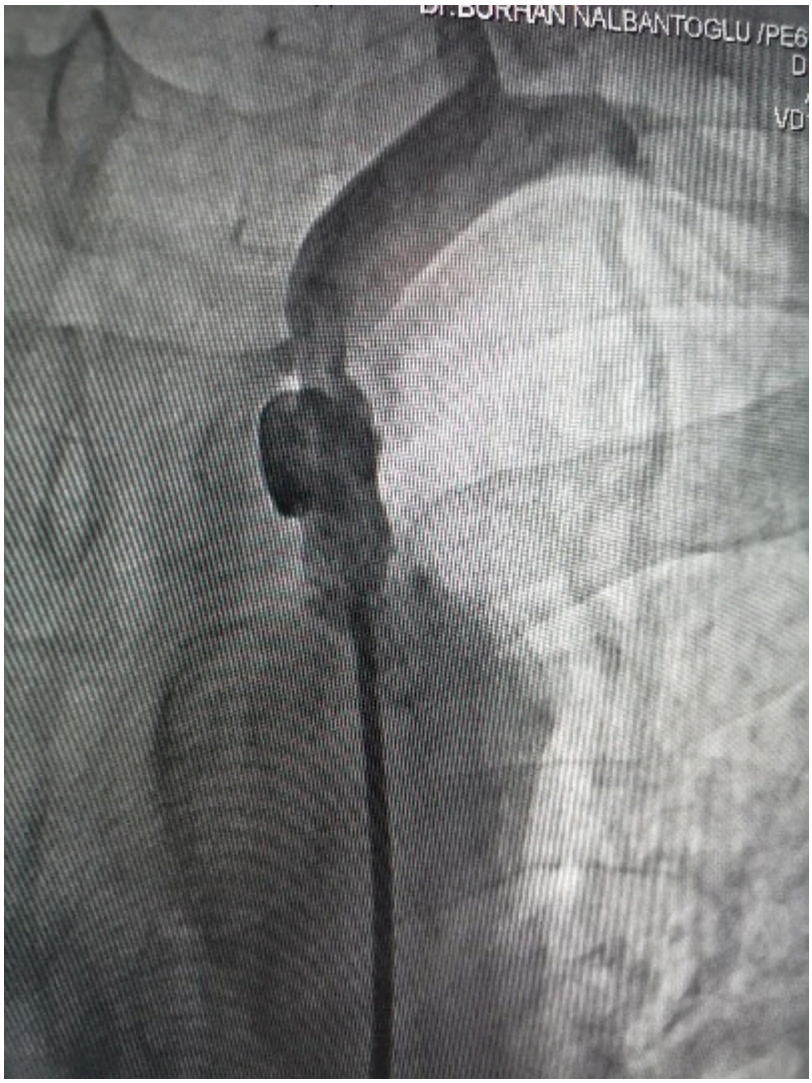
A 62-year-old male patient presents to the outpatient clinic with a severe blood pressure difference between the two arms. The patient's right arm blood pressure is measured as 200/120 mmHg, and the left arm pressure is 120/60 mmHg. The patient is a heavy smoker. (40 packs/year).

In the subclavian Doppler, monophasic flow was observed from the proximal part of the left subclavian artery and the patient was taken to the angiography laboratory with the suspicion of severe subclavian stenosis.

A 6F sheath was placed through the right femoral route and the Left Subclavian artery was visualized with the right judgins diagnostic 6F catheter (Figure 1-2). Percutaneous intervention was decided and right radial 6F sheath was placed on the patient. Imaging was performed over the radial sheath, and an 8.0 x 37 mm (Picture 3) balloon expandable stent was placed to protrude 1-2 mm into the aorta (Picture 4-5) and full patency was achieved.

Discussion and Conclusion:

Stent position is important during percutaneous intervention in subclavian stenosis. Especially when there is stenosis in the subclavian ostium, the stent should protrude into the aorta by 1-2 mm to cover the ostium. At this point, it is important to place a sheath from the radial artery or brachial artery from a second route, take an image and place the stent. This case demonstrates right femoral stent placement in parallel with left radial imaging of a patient with stenosis in the subclavian ostium. Subclavian stenting is performed by cardiovascular surgery team or neuroradiologists in different centers from different branches. The purpose of presenting this case is to emphasize that cardiologists are experienced in invasive stenting and can perform the procedure successfully, especially in such cases to emphasize the importance of decision making.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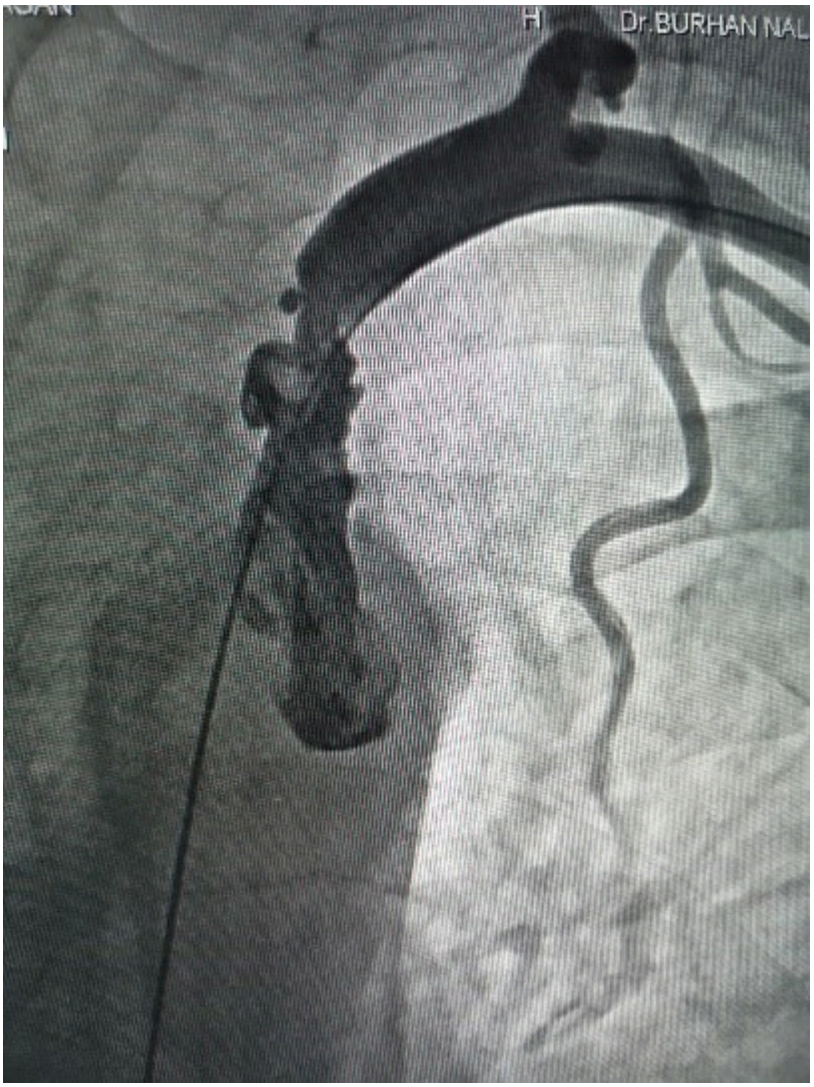
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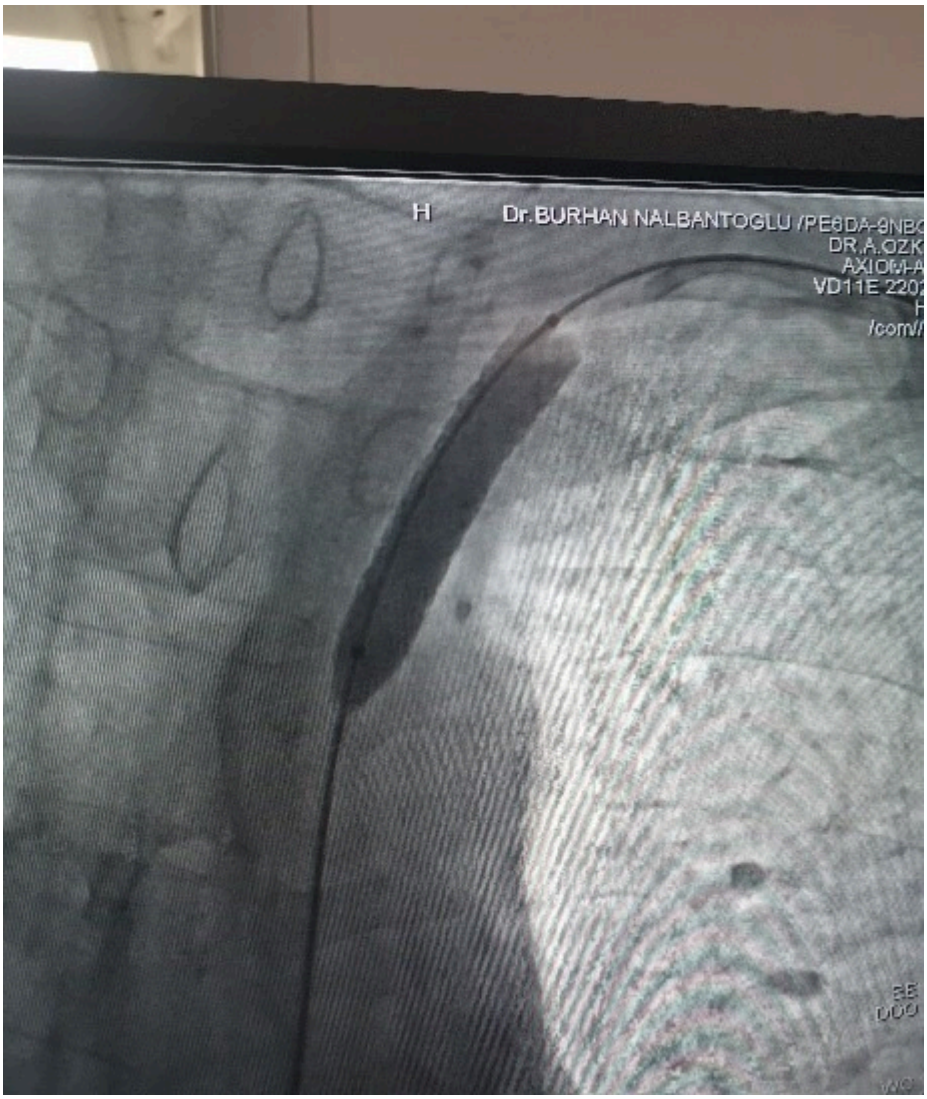
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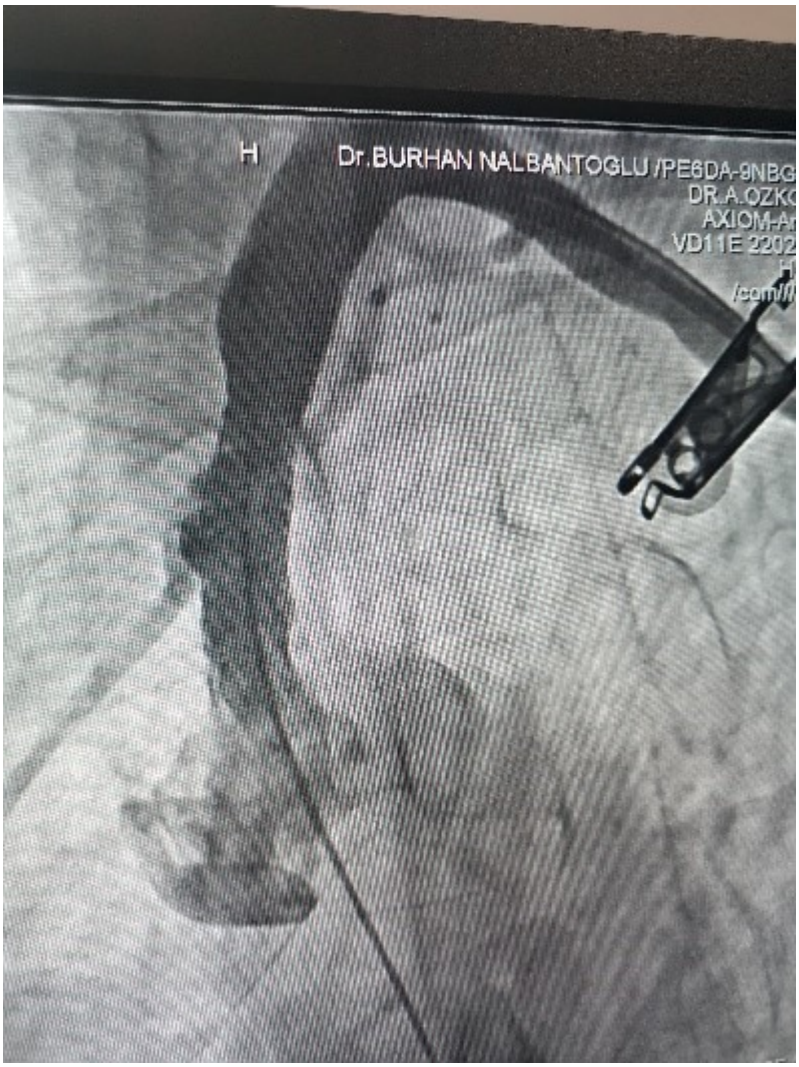
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ID: **59**

Topic: **Cardiology > Acute coronary syndromes**

Presentation Type: **Poster**

## KOUNIS II SYNDROME WITH COMPLETE ATRIOVENTRICULAR BLOCK AFTER BEE STING

**Serdar Gökhan NURKOÇ**

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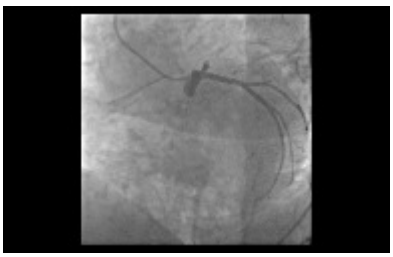
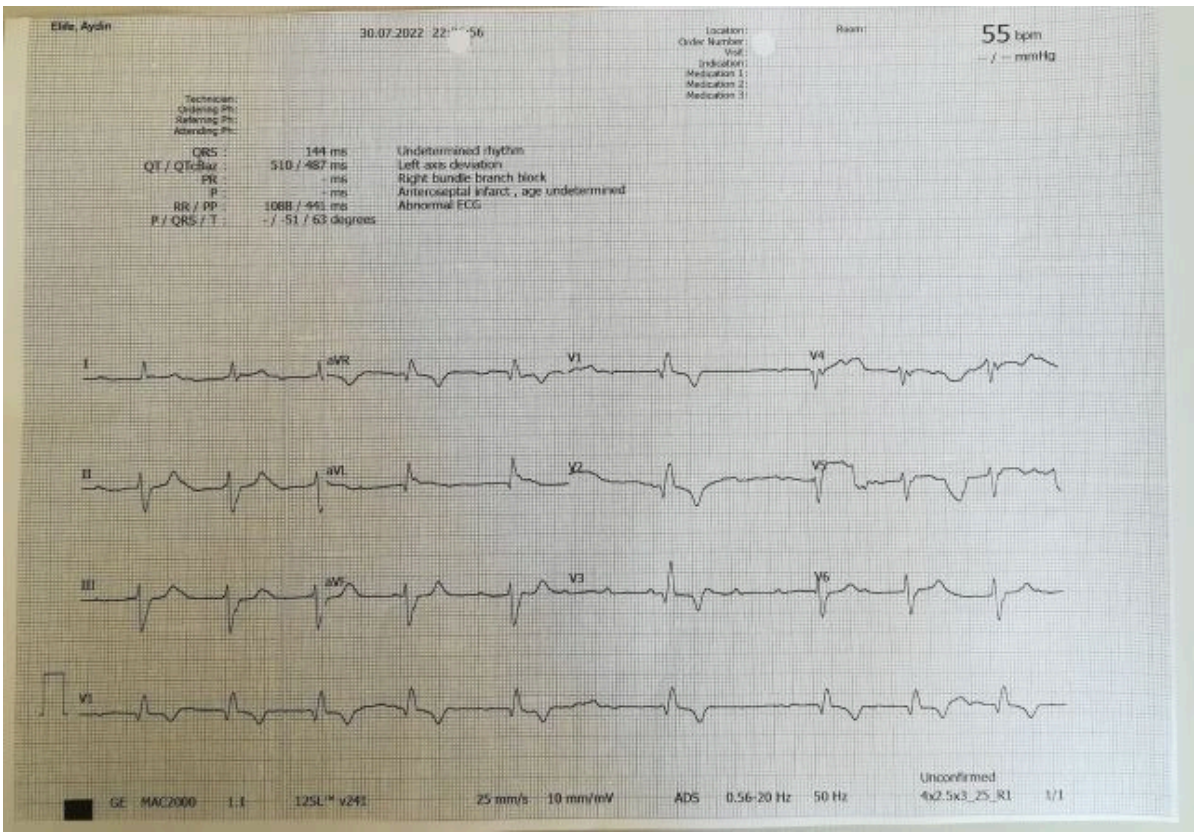
A 76-year-old female patient is being followed up for diabetes mellitus and systemic arterial hypertension. She was brought to the emergency center by 112 after the attack of the wasps, after dyspnea, and worsening in her general condition. Adrenaline (0.3mg IM), methylprednisolone (80mg iv), and pheniramine (45mg iv) were administered in the external center emergency. Since his general condition did not improve, he was referred to our hospital. In the examination performed in the emergency room, dyspneic, confu, and prominent redness of the face and extremities were observed. The patient was intubated by emergency physicians in the emergency department. We were consulted because he was bradycardic. Blood pressure 70/50mmHg; heart rate: 48/min; respiratory rate 11/min; oxygen saturation was measured at 75%. On auscultation, diffuse ral and rhonchi were auscultated from the upper zones of the lungs. Electrocardiography (ECG): Sinus bradycardia, rbbb, intermittent AV complete block, Transthoracic echocardiography (TTE): ejection fraction: 35%, anterior and apex advanced hypokinetic, I my, ty, sPAB: 46mmHg, right ventricle and right atrium: 34/34mm. In laboratory examination, D-Dimer:3.8µg/mL (reference value:0-0.5µg/mL); troponin: 26224 ng/L (reference value: 8.4-18.3 ng/L), glucose:580 mg/dl, creatinine:1.12 mg/dl, wbc:18.2 103/µL, hb:11.6 g/dl, NE:11.6 103 /µL (1.9-8.2), MON:1.2 103/mm3 (0.2-0.9), EO:0.1 103/µL (0 0.5), LY:1.2 103/mm3 (1.1-3.1), crp:0.5 mg/dl, pH:7.15, pCO2:53, pO2:35 lactate:4.9, were determined. Dopamine inf was started because he was hypotensive. 1 mg of atropine was administered intravenously. 300mg acetylsalicylic acid and 600mg clopidogrel were loaded from the nasogastric tube. 5000 U UFH was administered intravenously. The patient was taken to the hemodynamic laboratory. Coronary angiography was performed. An anterior descending artery (LAD) was observed from the proximal total. Noncritic stenosis was detected at the mid-level of the right coronary artery. LAD, percutaneous transcoronary artery balloon dilatation and stent implantation were performed. As in this patient, anaphylactic shock may present as an acute coronary syndrome and complete AV block. Acute coronary events resulting from such allergic reactions are classified as Kounis syndrome. Type II Kounis syndrome, on the other hand, refers to myocardial infarction occurring as a result of an acute allergic reaction inducing plaque erosion or rupture in atherosclerotic coronary arteries. we classified this case as Kounis type II syndrome because of the risk of coronary artery disease and atherosclerotic changes in the background of other coronary arteries.





ID: **65**

Topic: **Cardiology > Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Poster**

# A RARE CASE OF WOLFF-PARKINSON-WHITE SYNDROME ASSOCIATED WITH RIGHT ATRIAL ANEURYSM

**Meryem BEYAZAL**[1], Senem OZGUR[2]

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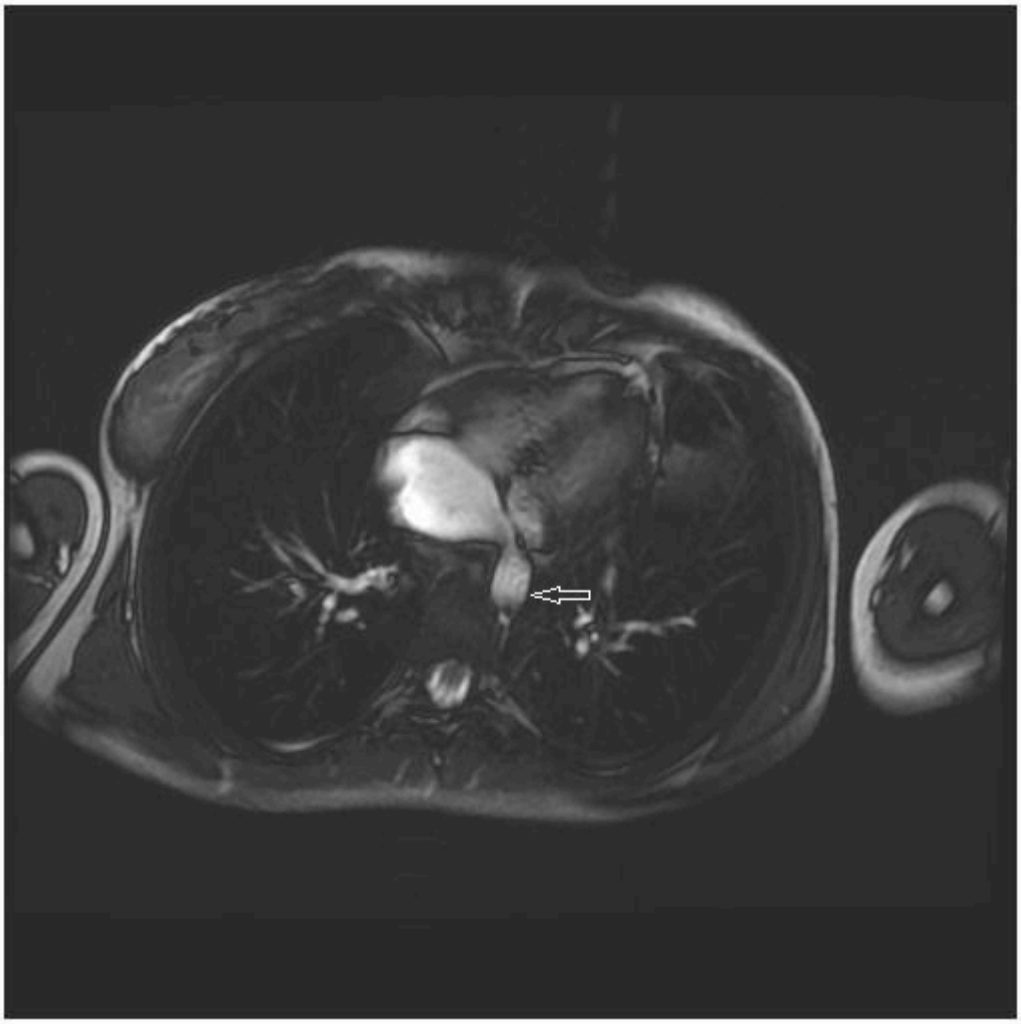
[2]*Dr Sami Ulus Gynecology Obstetrics and Child Health and Diseases Training and Research Hospital, Ankara, Turkey*

Objective: Wolff-Parkinson-White syndrome is rarely associated with a right atrial aneurysm. However, when such a condition occurs, it will be hard to manage since pre-excitation will be induced as long as the aneurysm persists.

Results A 14-year-old female patient received emergency treatment for irregular wide QRS complex tachycardia in our center, and a pre-excitation pattern was then observed on the surface electrocardiogram. An initial electrophysiological study revealed a high-risk right posterior accessory pathway which was resistant to both radio-frequency and irrigated radio-frequency ablations. Subsequently, fluoroscopy showed that this was due to a right atrial aneurysm. A 24-hour Holter monitoring after the catheter ablation exhibited a short PR interval indicating pre-excitation. Accordingly, we initiated anti-thrombotic and anti-arrhythmic drug therapy. We decided to omit surgery and followed the case under medical treatment for two years without complications.

Conclusion: Here, we report this rare co-existence and our treatment approach in detail.



ID: **92**

Topic: **Cardiology > Acute coronary syndromes**

Presentation Type: **Poster**

# ACUTE MYOCARDIAL INFARCTION CAUSED BY SUICIDAL HANGING ATTEMPT

**Ferit Onur MUTLUER**[1], Gokhan GENCER[2], **Dilan KARACAM**[3], Omer EMANET[3], Mehmet Ali YUCEL[3], Lale DİNC ASARCİKLİ[4]

[1]*Yeditepe University Hospital Department of Cardiology, Istanbul, Turkey*

[2]*Yeditepe University Hospital Department of Emergency Medicine, Istanbul, Turkey*

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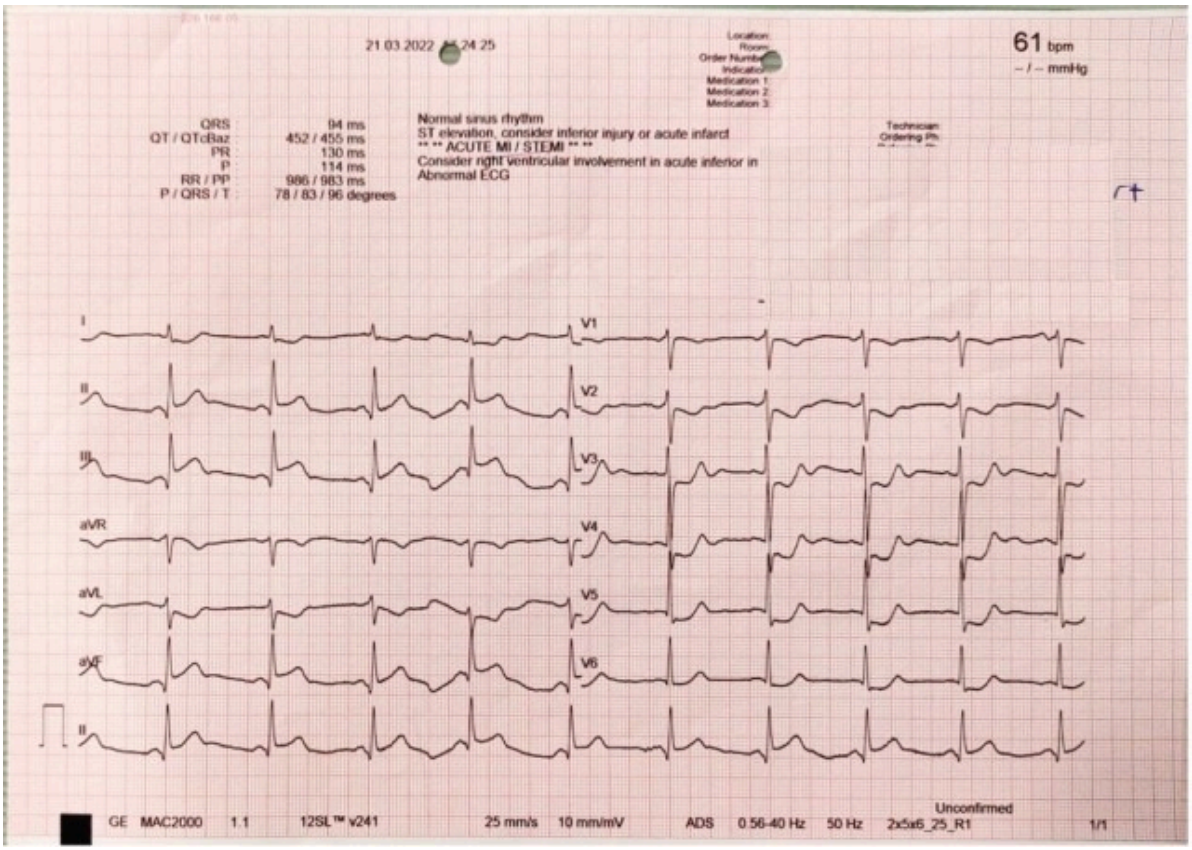
[4]*Siyami Ersek Hospital Department of Cardiology, Istanbul, Turkey*

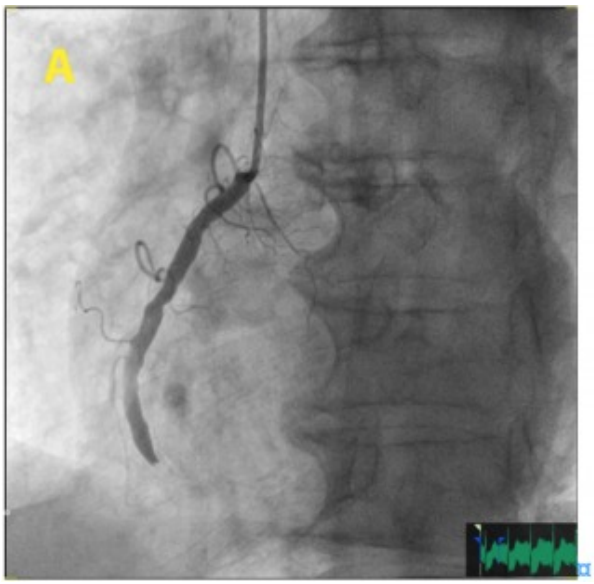
ABSTRACT

Suicides account for more than 800.000 deaths annually worldwide. It is the leading cause of death in the second and third decades of life. Hanging is one of the common methods of suicide. Unsuccessful hanging attempts occur more common than successful attempts, and is an important cause of morbidity. Cardiovascular complications are not rare after suicidal hanging attempts, and the patients should be investigated carefully for these complications.We herein present a 51-year-old male who admitted with acute myocardial infarction following an hanging suicide attempt.

CASE PRESENTATION

51 years-old male patient was found unconscious at home following an attempted suicidal hanging and was brought to emergency room by Emergency Medical Services. He regained his consciousness upon his arrival(Figure-1). His arterial blood pressure was 148/82, and heart rate was 61 bpm with an arterial oxygen saturation of 99%. His neurological examination was completely normal, computerized tomography and diffusion magnetic resonance imaging also didn't demonstrate any defects. He had a typical chest pain suggestive of coronary ischemia. ECG demonstrated acute inferior wall myocardial infarction(Figure-2). Acetyl Salicyclic Acid 300mg, clopidogrel 600mg and Enoxaparine 70mg SC was administered. Coronary angiogram demonstrated a total occlusion of the right coronary artery, which was successfully reperfused with percutaneous coronary intervention(Figure-3).


21.03.2022 24.25
Location:
Room:
Order Number:
Indication:
Medication 1:
Medication 2:
Medication 3:
61 bpm
-- / -- mmHg
QRS: 94 ms
QT / QTcBaz: 452 / 455 ms
PR: 130 ms
P: 114 ms
RR / PP: 986 / 983 ms
P / QRS / T: 78 / 83 / 96 degrees
Normal sinus rhythm
ST elevation, consider inferior injury or acute infarct
** ** ACUTE MI / STEMI ** **
Consider right ventricular involvement in acute inferior in
Abnormal ECG
Technician:
Ordering Ph:
I
II
III
aVR
aVL
aVF
II
V1
V2
V3
V4
V5
V6
GE MAC2000 1.1 12SL™ v241 25 mm/s 10 mm/mV ADS 0.56-40 Hz 50 Hz 2x5x5_25_R1
Unconfirmed
1/1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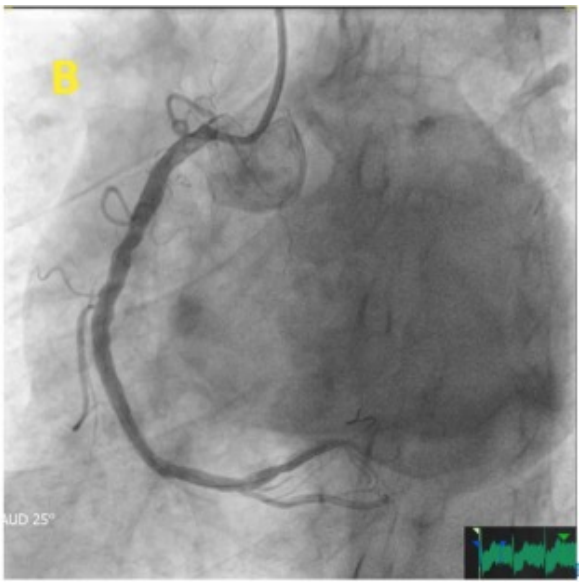
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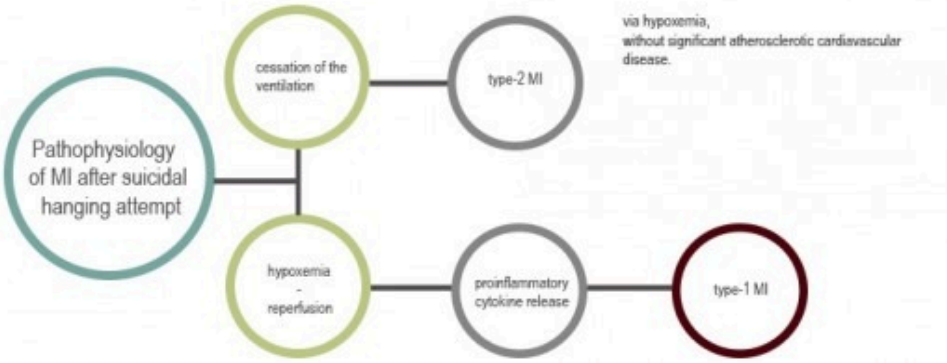
Pathophysiology of MI after suicidal hanging attempt
cessation of the ventilation
type-2 MI
via hypoxemia, without significant atherosclerotic cardiovascular disease.
hypoxemia - reperfusion
proinflammatory cytokine release
type-1 MI

ID: **118**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Poster**

# COMPARING EARLY WOUND OUTCOMES FOLLOWING ENDOSCOPIC VEIN HARVESTING USING "NO TOUCH" AND SKELETONIZED TECHNIQUE

**Victor VAYKIN**, Michail RIAZANOV, Alishir GAMZAEV, Dmitrii ZHILTSOV, Anton MAXIMOV, George BOLSHUHIN, Nikita KONOVALOV

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Background: Despite the growing trend towards performing full arterial revascularization, great saphenous vein remains the most commonly used conduit. Harvesting of vein in a flap with surrounding tissues ("no touch") and its perfusion without dilation allows to achieve high viability of vein as a conduit and maintain patency for a long time, however, causes a significant number of postoperative wound complications. The aim of our study was to compare the clinical and functional state of lower limb after endoscopic vein harvesting in a flap and skeletonized.

Methods: 187 cases of endoscopic harvesting of great saphenous vein performed in 2018-2022 were analyzed. They were divided into 2 groups: group 1 (n=100) included patients who underwent endoscopic vein harvesting using skeletonized technique, the second group (n=87) included patients whom veins were harvested endoscopically in a flap. Concomitant pathology and other factors affecting the healing process of postoperative wounds were evaluated in both groups, no statistical difference was found.
Results: During the examination in the early postoperative period, 17 complications (17%) from the lower limb were revealed in group 1, hematomas of lower leg were detected in 12 cases (12%). In addition, there were 15 cases (15%) of acute lymphovenous insufficiency, manifested by edema up to the ankle. 20 complications (23%) in group 2 were diagnosed. Acute lymphovenous insufficiency occurred in 17 cases (19.5%), with edema spreading up to ankle. 10 patients (11.5%) had hematomas. However, in group 2 58 patients (66.7%) had neuropathies, manifested by hypesthesia in the area of vein allocation in the lower leg, which was absent in group 1.

Conclusion: Endoscopic harvesting of vein in a flap allows to minimize surgical trauma and procure a conduit with a good prognosis of functioning, corresponding to modern standards of revascularization. The number of complications is small, equals to endoscopic harvesting of skeletonized vein and does not have any significant impact on the rehabilitation of patients. However, due to the fact that vein harvests in a flap together with n. Saphenous, there are frequent cases of decreasing of skin sensitivity in the lower leg.

ID: **122**

Topic: **Cardiology > Cardiac resynchronization therapy**

Presentation Type: **Poster**

# CARDIAC RESYNCHRONIZATION THERAPY IN PERSISTENT LEFT SUPERIOR VENA CAVA WITH A BRIDGING INNOMINATE VEIN

**Mattia LICCARDO**[1], Giovanni PILATO[1], Domenico VITTORIA[2], Maria REA[2], Carmine CIARDIELLO[3], Ersilia CIPOLLETTA[4]

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[2]*Abbott Italy, Napoli, Italy*

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BACKGROUND. The Persistent Left (PL) Superior Vena Cava (SVC) is a congenital malformation of the thoracic venous return that has an incidence of 0.2-3 % in the general population and an incidence of about 0.5% in patients undergoing cardiac implantable electronic device. In this case, the placement of the leads, especially for the Right Ventricle (RV) and Left Ventricle (LV) through one of the branches could be challenging.

METHODS. A 66-year-old man with hypertension, diabetes and dyslipidemia, in optimal pharmacologic therapy for congestive heart failure (NYHA II), with a sinus bradycardia with a first-degree atrium ventricular block (PR interval of 220ms) and a Left Bundle Branch Block (QRS duration of 130 ms), was indicated to CRT device implantation. The patient had a LV hypertrophy and mild global systolic function (LV ejection fraction of 40%) for these we opted for a pacemaker device.

RESULTS. Isolation of left cephalic vein was used as venous access for right atrium (RA) and RV leads while Seldinger technique via subclavian vein was used as venous access for LV lead. The guidewire through the subclavian vein pointed out the presence of PLSVC. Left subclavian venogram confirmed PLSVC and revealed a bridging innominate vein. To pass through the innominate vein and reach the SVC, a 0.035-inch hydrophilic guidewire was used. A 6Fr-sheath was advanced through the hydrophilic guidewire, subsequently a second metallic guidewire was advanced through the same introducer by removing the dilator. The RV and RA leads were placed respectively on low right interventricular septum and RA appendage passing through bridging innominate vein. Electrical parameters were normal. For the placement of the LV lead a 9.5Fr sheath introducer was advanced over the guidewire through the PLSVC. A venogram showed a lateral and a postero-lateral branch of the coronary sinus with acute angulation. With a 6Fr quadripolar Josephson catheter the postero-lateral branch was entered, eventually a 9Fr peelable outer guide catheter was advanced through the electrophysiology catheter becoming selective with the interested branch. A quadripolar S shaped lead was used, it was advanced into the targeted vein through a 0,014fr hydrophilic guidewire. Adequate electrical parameters and stability were achieved.

CONCLUSION. Lead implantation in patient with PLSVC is challenging. Placing the RA and RV leads through SVC ensure a better stability along time. The cannulation of CS is easily achieved by approach via PLSVC while selective vein cannulation can be difficult due to the modified acute angulation.

ID: **125**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

# REMOVAL OF A BROKEN GUIDE WIRE IN THE CORONARY ARTERY DURING CORONARY ANGIOGRAPHY

**Umut UYAN**

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**INTRODUCTION**

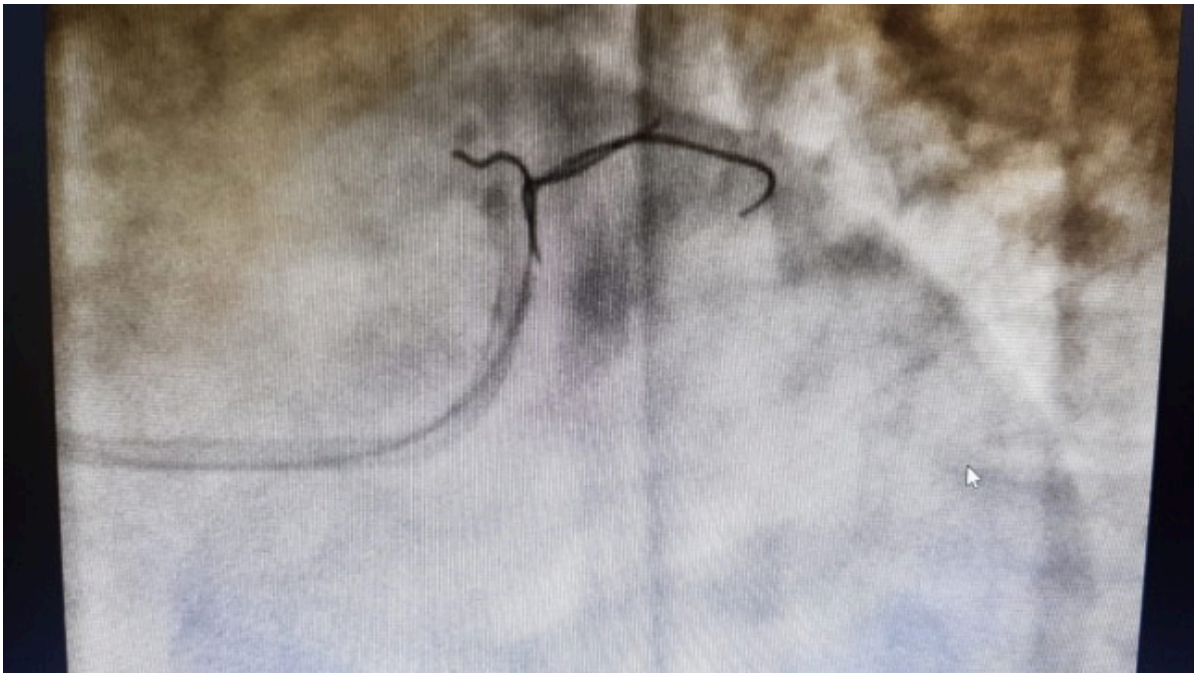
As the number of coronary angiography and percutaneous coronary interventions increases, the number of complications increases. One of these complications is the rupture of the guide wire used in the bifurcation stenting procedure in the coronary arteries or one of its lateral branches. The rate of this complication, which can be caused by the attachment of the guide wire in the coronary side branches, attachment to the coronary artery by rotation, or structural problems, is around 1-2%. In line with the joint decision of the cardiology and cardiovascular surgery departments, there are treatment options such as surgical treatment, percutaneous treatment and no touching. In our case, we will talk about the removal of the guide wire that broke during percutaneous coronary intervention with the wire wrapping technique.

**CASE PRESENTATION**

A 65-year-old male patient, who was admitted to us for chest pain, was decided to have coronary by-pass in the angiography performed in an external center, and the patient who did not want to be bypassed, whose chest pains continued, applied to our clinic. His findings were normal in his examinations. Physical examination was unremarkable. Ejection fraction on echocardiography was 45%. Left ventricular anterior wall was hypokinetic.The patient was taken to the coronary angiography laboratory for percutaneous coronary intervention. The right femoral artery was punctured and a 6F sheath was placed. After imaging the left coronary artery, 0.14 inch floppy wire was used to wire the LAD lesion and its diagonal side branch for stenting the LAD lesion, while the radiopaque part of the floppy wire in the diagonal branch was broken off from the shaft of the wire (Figure 1). 2 new floppy wires were advanced next to the broken wire and wrapped around the broken wire(Figure 2). While the wires were pulled backwards, the broken wire was brought up to the LMCA, but the guiding could not be brought back into the catheter. Then, negative aspiration was applied with a 10 cc injector and the broken wire piece was taken into the catheter and taken out(Figure 3-4). Then, the LAD lesion was wired again and the drug-eluting stent was successfully implanted.

**DİSCUSSİON**

Complications of clinical importance are encountered between 0.3-1% during coronary angiography. It is rare for the guidewire to break during the procedure. However, if this complication develops, events such as embolism, vascular occlusion or thrombosis may occur. In such cases, it is important whether the flow of the affected coronary artery is disrupted and whether the part is stable or not. In this case, the septal branch of the LAD was affected, but the fracture did not affect the flow in any way. It was successfully extracted by wire wrapping technique. In cases where the broken part will not be intervened, long-term anticoagulant and antithrombotic treatment will also minimize the possible thrombosis risks. Surgical treatment may be required, apart from wig methods such as snareloops, balloon dilation catheters, myocardial biopsy forceps. However, there is a risk of ruptures, dissections or part embolisms with the part that is already stuck during the intervention with these ways.

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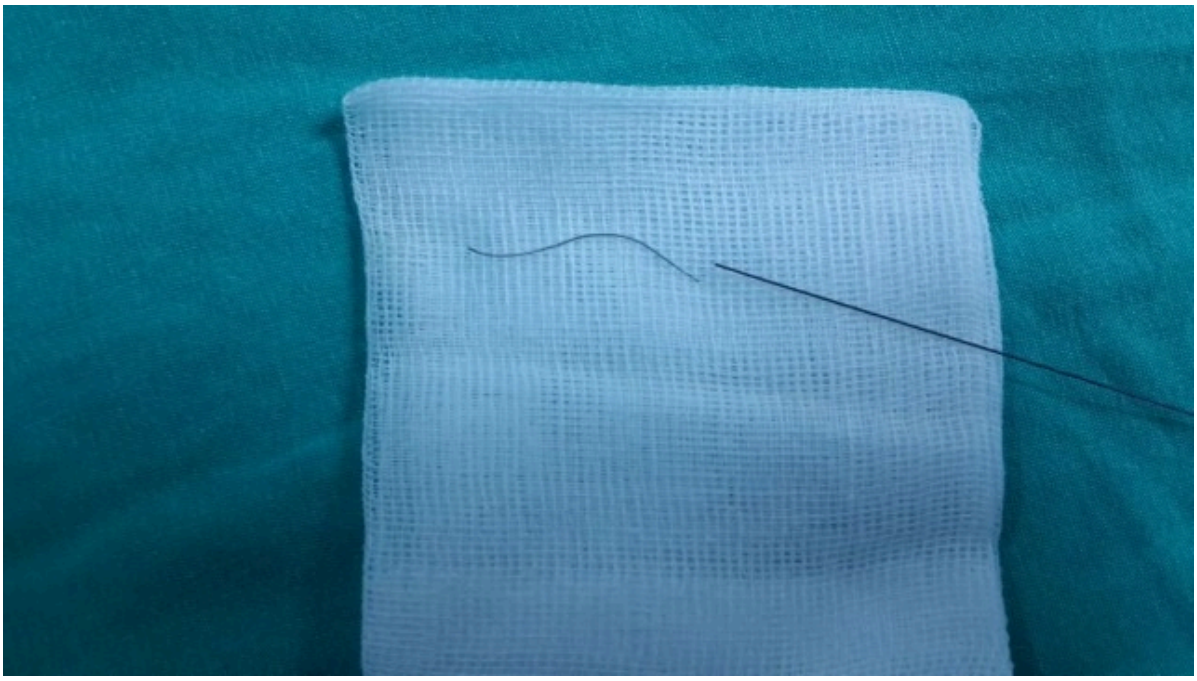

ID: **135**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

# Giant Venous Hemangioma on the Neck

**Hande İŞTAR**, Gökhan İLHAN, Sabri KÖSEOĞLU, Mürşide Gülay ÖRGÜN SÖNMEZ

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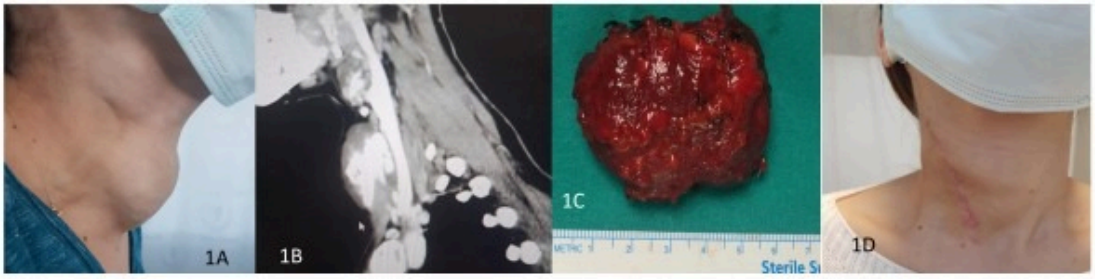


OBJECTIVE

Hemangiomas are benign vascular tumors.They are categorized histologically as capillary, cavernous,and venous.Both cavernous and venous hemangiomas contain large dilated vessels.The case is here reported of a patient with a venous malformation mimicking jugular vein ectasia on the neck and the treatment applied.

METHODS

A 28-year-old female patient was admitted to the hospital due to a smooth mass on the right side of the neck.The mass had been present since childhood and started to become more obvious at the age of 13 years.Throughout the adolescent growing period, the mass continued to enlarge(Figure 1A).During pregnancy the growth of the smooth mass accelerated reaching dimensions of 8x5 cm(Figure).The mass did not decrease in size after giving birth.The patient presented with aesthetic complaints and pain when bowing her head(Figure 1A).Doppler ultrasound showed that mass was a lobulated vascular malformation.Computed tomography revealed that it contained a lobulated venous malformation. There was no sign of arterio-venous fistula(Figure 1B).Surgery was planned for both the cosmetic and pain symptoms.The patient was evaluated for cardiac pathology with echocardiography,and cranial computed tomography revealed no cerebral vascular pathology.Under general anaesthesia, a skin incision was made anterior of the m.sternocleidomastoideus, 5 thick veins related to the v. jugularis interna,v. jugularis externa,and v. throidea superior were seen to supply the venous hemangioma. Ligation of these supplying veins was performed.The postoperative pathological examination confirmed the diagnosis of venous hemangioma(Figure 1C).Postoperative follow-up was uneventful.The cosmetic result was satisfying enough for the patient(Figure 1D).

RESULT

Hemangiomas are benign vascular tumours that present in infancy or in young ages with functional problems and undesirable appearence(1).They are classified into capillary and cavernous or mixed types.They may cause pain,skeletal deformity,restricted extemity mobility.Infantile hemangiomas are generally located in the head and neck,although they can be diagnosed in any body location,including organs,especially the liver.Although it is known that hemangiomas can regress spontaneously and may be followed up without treatment,it is sometimes necessary to give medical treatment as the first choice and for cases that do not regress,surgical intervention can be applied in addition to medical treatment(2).

CONCLUSION

The mass in the current patient was similar to jugular vein ectasia due to its localization,slow growth, and accelerated enlargement during pregnancy.It should be kept in mind that it is possible to encounter venous haemangioma with an anterior neck location.

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ID: **136**

Topic: **Cardiovascular Surgery > Congenital heart surgery**

Presentation Type: **Poster**

# Ellis Van-Creveld Syndrome Associated with Isolated Atrial Septal Defect in Turkey

**Hande İŞTAR**

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OBJECTIVE

Ellis-Van Creveld (EvC) Syndrome is a rare disease with an autosomal recessive inheritance pattern. It typically presents as ectodermal dysplasia, bilateral postaxial polydactilia or short-limbed dwarfism. It is associated with congenital heart diseases in the ratio of 60%(1). We introduce a case of Ellis-Van Creveld (EvC) Syndrome associated with atrial septal defect and its successful surgical therapy.

METHOD

Our nine-year-old female patient was admitted to our hospital due to cardiac murmur in routine examination. Her height was 109 cm(under the 3rd percentile of Turkish standards); her weight was 24 kg(figure 1A). The proximal parts of the extremities were short, genu valgum deformity was present(figure 1A). Multiple labia frenula on the jawbone, a hyperplastic single frenulum on the maxilla, agenesia of the canine teeth, hypoplasia of the incisor teeth were observed(figure 1B). She had postaxial polydactyly on her hands contrary of her feet. All nails were hypoplastic and dystrophic(figure 1C). There was no dysfunction of psycho-motor, cognitive or auditory systems. The patient was diagnosed with EvC syndrome due to the physical stigmata characteristics of EvC. Transthoracic echocardiography showed a secundum-type atrial septal defect(ASD). No evidence of respiratory failure was found. Chromosomal analysis was not allowed by her parents and thus could not be performed. We performed standard ASD patch repair. The secundum-type ASD was 2x1.5 cm in size.

RESULT

Excessive pulmonary secretion, indicative of ciliary dysfunction, did not occur. Even though the INR was slightly higher, the postoperative amount of bleeding was in the expected range. Hematuria that occurred intraoperatively ended within 24 hours. She was discharged on the 5th postoperative day. She did not exhibit any pulmonary dysfunction during follow-up.

CONCLUSION

Even though ASD repair didn't require a different surgical technique, we believe that our patient is the fourth alive patient to undergo successful cardiac operation in Turkey and we didn't meet any severe complication due to additional features of the syndrome.

Figure 1A:Dwarfism and genu valgum deformity in EvC syndrome.

Figure 1B:Agenesia of canine teeth, hypoplasia of incisor teeth.

Figure 1C:Polydactyly only on hands, dystrophy and hypoplasia on all the nails.

REFERENCE

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ID: **137**

Topic: **Cardiology > Cardiac imaging - Cardiac CT**

Presentation Type: **Poster**

# Infracardiac Total Abnormal Pulmonary Venous Return Draining Into Portal Vein

**Hande İŞTAR**, Neşat ÇULLU, Buğra HARMANDAR

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A newborn presented with respiratory distress and cyanosis was diagnosed with infracardiac total abnormal pulmonary venous return (TAPVR) on echocardiography and intubated immediately. To determine exact anatomy, the computed tomography angiography (CTA) evaluation was performed. The CTA showed anomalous pulmonary venous drainage with a descending vertical vein joining the left branch of portal vein below the diaphragm (Figure 1A,1B). There was no sing of obstruction (Figure 1C). Informed consent was taken from patient's parents. Operation was planned following the diagnosis. Unfortunately the patient was died due to respiratory complications, subsequently.

TAPVR is classified into four types:

The supracardiac type (44%) (1): pulmonary confluens drains into the v. cava superior or brachiocephalic veins through the ascending vertical vein,

The cardiac type (21%) (1) : pulmonary confluens drains to the coronary sinus or right atrium,

The infracardiac type (26%) drains to v. cava inferior, portal vein (2),

The mixed type (9%) (1) : the pulmonary veins drain to minimum 2 different systemic veins or cardiac venous chamber.

Descending vertical vein passes through the oesophageal hiatus and joint frequently to the left branch of portal vein or hepatic veins, ductus venosus and v. cava inferior less frequently in infracardiac TAPVR.

References

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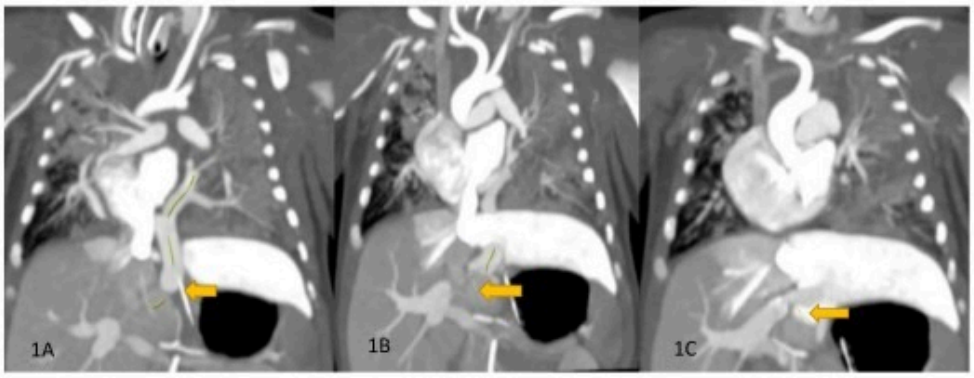
Figure 1A,1B,1C: Computed tomography anjiography shows descending vertical vein of TAPVR joining left branch of portal vein. There is no sign of obstruction.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ID: **142**

Topic: **Cardiovascular Surgery > Endovascular surgery**

Presentation Type: **Poster**

# Endovascular Surgery in Arterial and Venous Thrombosis of The Lower Extremity: Case Reports

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Endovascular Surgery in Arterial and Venous Thrombosis of The Lower Extremity: Case Reports

OBJECTIVE: To present the cases of lower extremity acute arterial and acute venous thrombosis treated with endovascular surgery

CASES:
Case-1: 69-year-old man with diabetes mellitus had pain in his left leg with signs of ischemia.

Case-2: 67-year-old female diabetic and hypertensive patient with signs of ischemia and paleness in her left leg and foot as well as wound on her foot.

Case-3: 74-year-old man complained of claudication and coldness in his right leg.

Case-4: 63-year-old male with no comorbidity; severe pain, cyanosis and edema in the left leg.

Case-5: 64-year-old man with fever and cyanosis in the right leg.

Case-6: A patient with sudden onset of edema.

METHODS: Anamnesis of the patients were taken; their physical examinations and appropriate diagnostic tests were performed. They were treated according to their diagnosis.

RESULTS: Arterial thrombosis was diagnosed in our first three cases. Angiography was performed, pharmaco-mechanical thrombolysis percutaneous angioplasty, atherectomy was applied. In these cases, no complications were observed after endovascular surgery and ischemia findings improved.

The distal pulses of the last three cases were palpable and were diagnosed as venous thrombosis. Doppler ultrasonography was performed, catheter-guided thrombolysis, venous angioplasty and percutaneous thrombectomy were carried out after venography. There were also no complications in these three cases and the symptoms regressed.
All our patients were discharged on the first postoperative day.

CONCLUSIONS: Peripheral arterial disease is quite common in the community. With their effective treatments, morbidity and mortality can be prevented. Ischemia, vascular complications, amputation, myocardial infarction, stroke, major bleeding and even mortality may occur in patients who are effectively not treated.

Venous thromboembolism is common. It may present as deep vein thrombosis or pulmonary embolism that serious complications. Clinical management is difficult, and morbidity is high. Providing complete venous patency in the early period reduces the symptoms and eliminates the development of post-thrombotic syndrome.

With the developing technology in the treatment of peripheral vascular surgery, most of the arterial and venous interventions have changed from open surgery to percutaneous endovascular surgical procedures. Patients with arterial and venous thrombosis require immediate treatment. Due to the nature of endovascular methods that we apply to different vascular structures with different diagnoses, major procedural morbidity and mortality can be avoided. We believe that percutaneous endovascular surgical procedures can be a safe alternative to surgery in the early period by appropriate patient selection.

ID: **143**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Poster**

# UVULAR NECROSIS FOLLOWING TRANSESOPHAGEAL ECHOCARDIOGRAPHY IMAGING IN CATHETERIZATION LABORATORY: BE AWARE OF UNEXPECTED

**Aylin SAFAK ARSLANHAN**, Lale DİNÇ ASARCIKLI, Ali Nazmi ÇALIK, Barış YAYLAK, Şennur ÜNAL DAYI

*DR SİYAMİ ERSEK HASTANESİ GÖĞÜS KALP VE DAMAR CERRAHİSİ HASTANESİ, İSTANBUL, Turkey*

INTRODUCTION

Most of structural heart diseases have more often treated percutaneously with the invention of closure devices and imaging techniques. Interventional transesophageal echocardiography has pivotal role in the catheterization laboratory during closure of paravalvular leakages, atrial septal defects etc. With the incremental usage of transesophageal echocardiography (TEE), its unique perioperative complications came up. Herein, we present a case of patent foramen ovale (PFO) that was successfully closed with a PFO closure device but complicated by uvular necrosis.

CASE SUMMARY

A 45-year-old female patient underwent percutaneous closure of patent foramen ovale (PFO) under conscious sedation. The procedure was performed with the guidance of transesophageal echocardiography (TEE).The PFO was successfully closed without any procedural complication.The total procedure time was approximately 40 min.The patient experienced sore throat and dysphagia following the procedure.Physical examination for oropharynx revealed hemorrhagic uvula with demarcation line of necrosis (Fig.1).The patient was treated with analgesic, antiseptic gargle and nonsteroidal antiinflammatory drugs.Airway obstruction that needs urgent surgery, uvular infection, or bleeding wasn't occured. Patient's symptoms improved slowly and resolved completely by the end of the third week.Manipulation of TEE probe may cause physical trauma and local ischemia due to compression of the uvula between TEE probe and the posterior pharynx in the midline or folding of uvula on itself results in necrosis.The standard TEE procedure is performed in the left lateral decubitis position and TEE probe passes from the oropharynx without intervening uvula.However, TEE imaging in catheterization laboratory was performed in the supine position.The most possible factor in the present case was prolonged procedure time and compression of the uvula by TEE probe.

CONCLUSION

Sore throat is widely seen minor complaint following TEE and generally neglected.This case demonstrates the value of oropharyngeal examination in the presence of sore throat.To prevent uvular trauma direct visualization of the oropharynx might prevent impingement of uvula by TEE probe.Following the TEE procedure and prior to discharge, the patient should be examined for oropharyngeal trauma and necrosis.

ID: **149**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

# PERMANENT TRANSVENOUS CATHETER OF A CANCER PATIENT MIGRATED TO THE PULMONARY ARTERY: A CASE REPORT

**Abdalraouf OMAR**[1], Amadallah RAKHA[2], Osama BHELEEL[3]

[1]*Albadry Polyclinic and Metiga Military Hospital, Tripoli, Libya*

[2]*Tripoli University Hospital, Tripoli, Libya*

[3]*Tripoli University Hospital and University of Tripoli, Tripoli, Libya*

Introduction: permanent trans venous catheter is inserted to be used as an access to give the chemotherapy for cancer patients, it is an effective tool; however, it may displace or fracture and migrate causing serious complications.
Case presentation: a 47-year-old female known case of colon cancer, presented with slipped right subclavian chest port (Port-A-Cath) and migration to the pulmonary artery. Trans femoral snaring of the migrated catheter successfully done under local anesthesia with no complication.
Discussion: Port-A-Caths ensure reliable access chemotherapy administration, it is important tool yet it has a serious complication include infection, thrombus formation, catheter occlusion, tube migration, and embolization. Embolization to the pulmonary artery one of the uncommon locations, removing the migrated tube through transfemoral approach is feasible and easy to do.
Conclusion: portal-a-cath is important tool for patients on chemotherapy, slipping of the catheter may occur and it can be removed by trans femoral snaring.
Key words: port-a-cath, snaring, transfemoral percutaneous intervention, chemotherapy, colon cancer and case report.

ID: **150**

Topic: **Cardiology > Cardiac pacing for bradyarrhythmias**

Presentation Type: **Poster**

# DUAL CHAMBER PACEMAKER IMPLANTATION IN A PATIENT WITH LEFT PERSISTENT SUPERIOR VENA CAVA

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[1]*Ankara Şehir Hastanesi, ANKARA, Turkey*

[2]*ANKARA ŞEHİR HASTANESİ, ANKARA, Turkey*

Objective:

Persistent left superior vena cava (PLSVC) is a rare congenital abnormality of thoracic veins and in most cases, it is incidentally diagnosed during left thoracic venous procedures. In this report, we present a 64-year-old patient with paroxysmal atrial fibrillation (PAF) and symptomatic sinus bradycardia undergoing implantation of dual chamber pacemaker leads through a PLSVC which was diagnosed at the moment of implantation.

Methods:

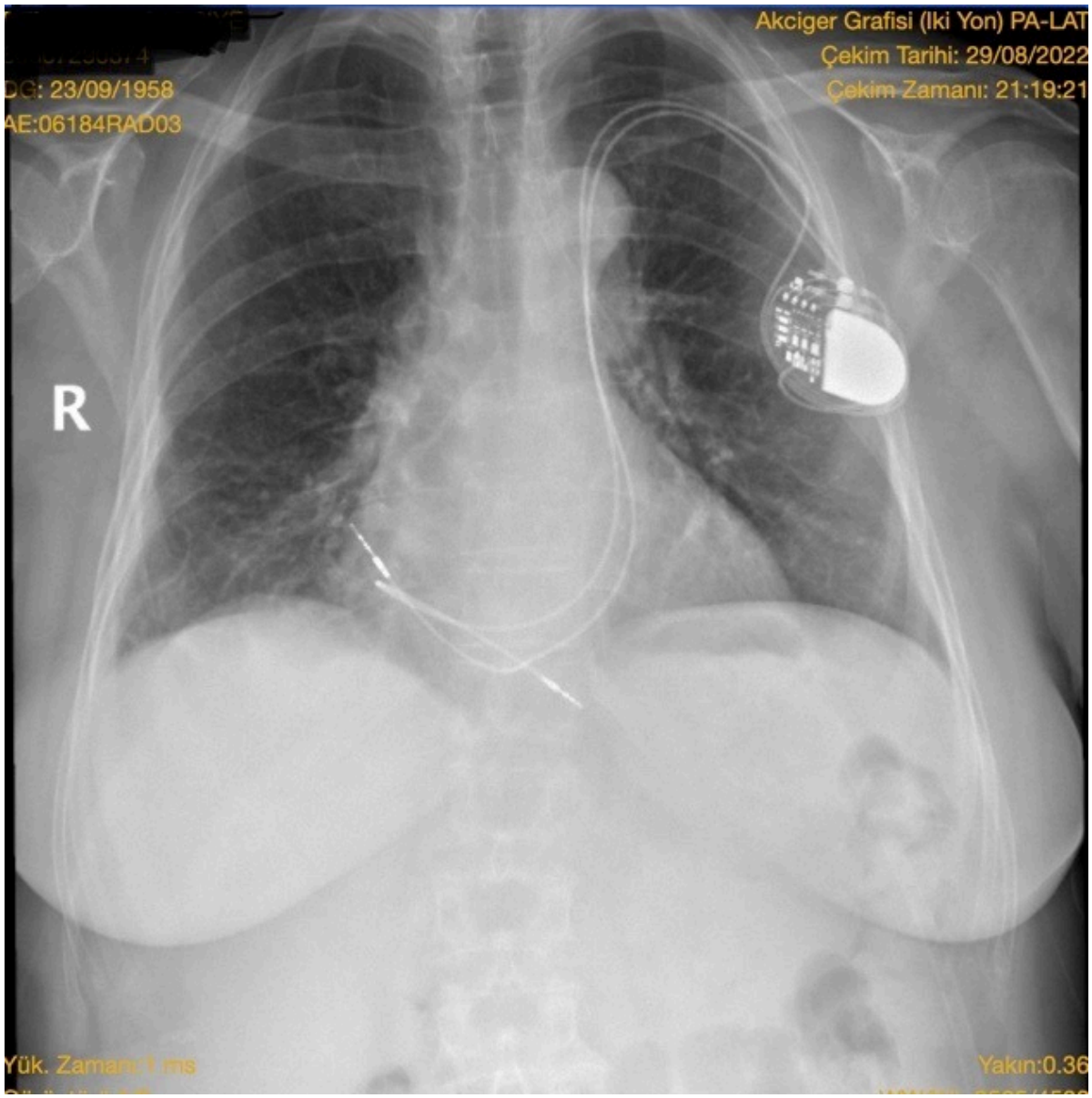
A 64-year-old female patient with known PAF and hypertension applied with the complaint of presyncope. Sinus bradycardia was detected in both electrocardiography (ECG) and 24-Holter ECG. Transthoracic echocardiography demonstrated normal LVEF and dilated coronary sinus. Permanent dual chamber pacemaker implantation was planned for the patient. During procedure, puncture was performed via the left subclavian vein. Despite venous backbleeding, pacemaker guidewire was noted to have an unusual medial course before reaching out the cardiac silhouette; same situation occurred after the second puncture of left subclavian vein. PLSVC draining into the coronary sinus(CS) and then right atrium was diagnosed. After appropriate forming of pacemaker stylet, the right ventricular lead was sent from CS to the right atrium and then through the tricuspid valve to the right ventricle. First lead was advanced to the pulmonary artery position and then pulled back to the right ventricle by observing ventricular extrasystole. An active fixation screw-in lead was positioned right apical septum with stable pacing threshold. Via the same route, a screw-in right atrial electrode was fixated anterolateral wall of right atrium with good sensing and pacing measurements. Lead positions were checked in different projections.

Results:

Twelve-lead ECG taken after the procedure revealed atrial paced ventricular sensed rhythm. Pacemaker leads were seen in coronary sinus in the echocardiographic examination. Chest X-ray in both AP and lateral projections obtained after the procedure confirmed the lead positions.

Discussion:

Persistent left superior vena cava is a rare congenital anomaly. Although mostly asymptomatic, it can be associated various atrial arrhythmias. Dilated CS can be the only clue during echocardiographic examination. Main challenge is the proper placement of device electrodes; particularly the right ventricular lead placement. With the aid of pre-shaped stylets and appropriate maneuvers as well as the active- fixation screw-in electrodes, successful right ventricle lead placement is possible in most cases. Otherwise, right thoracic approach should be preferred. Careful evaluation of the patient before the procedure, checking the positions of the electrodes with different imaging techniques will be useful to avoid unexpected events.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ID: **155**

Topic: **Cardiovascular Surgery > Congenital heart disease**

Presentation Type: **Poster**

# Successful Repair of Ventricular Septal Defect, Pulmonary Atresia and Double Aortic Arch

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OBJECTIVE

Double aortic arch is a congenital cardiac anomaly that occurs due to the persistence of both aortic arches in uterin life.Concomitant intracardiac anomalies are septal defects,TOF,TGA and heterotaxy/asplenia syndromes,dextrocardia,right ventricular-dominant AVSD,and DORV association. Here we present successful repair of a case with double aortic arch(DAA),VSD and PA association.

METHOD

12-day-old and 3 kg in weight term newborn was examined by echocardiography due to the cyanosis with oxygene saturation 80% in room air.In addition to PA and VSD,DAA was detected.The right aortic arch was greater and running through the right side of the vertebral column(Figure1A).The left aortic arch was smaller;all aortic branches and PDA were originated from the left arch(Figure1B).There was no sign of compression on trachea.Due to obligatory dependence of hypoplastic pulmonary circulation to the ductal patency,we decided to perform an initial aortopulmonary shunt operation.

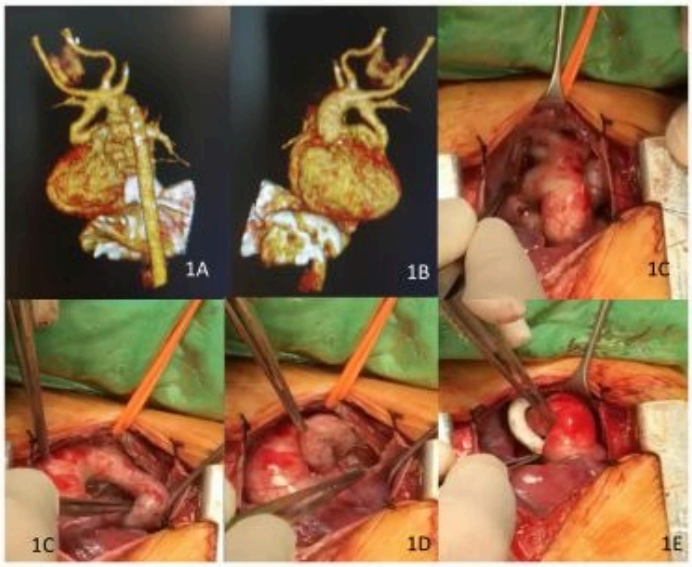
Median sternotomy was prefered to explore the anatomy entirely.To identify right and left subclavian arteries,we introduced right and left radial artery catheters previously and temporary occlusion test was made for each branch respectively.Ductal tissue originating from the end of left aortic arch was connecting to the pulmonary confluence.Right aortic arch was observed at the posterior site of left aortic arch creating a non-obstructive double aortic arch (Figure1C,1D).PDA was tortuous and dilated,that was severely narrowing at the connection of pulmonary confluence(Figure1E).After heparinization 4 mm PTFE graft was interposed between right pulmonary artery and proximal part of right subclavian artery with an 8/0 running polypropylene suture (Figure1F).After the adequate blood supply through the modified BT shunt, complete division of ductal tissue was performed.Narrowing on the left pulmonary artery was enlarged with a PTFE patch.Dissection around the descending aorta was made to provide an adequate mobility and to prevent a possible compression on esophagus caused by right aortic arch.

RESULT

Patient was extubated at the 2nd postoperative day and asetylsalicylic acide was began 6mg/kg once a day.Patient was discharged at the 7th day postoperatively without any complications.

CONCLUSION

Arrangement of the branches of double aortic arch should be evaluated preoperatively using computed tomography, in patients with associated complex cardiac disease.Presence or absence of this anomaly would not change the surgical procedure but it was important on deciding the appropriate subclavian artery for the shunt procedure with an appropriate angle.


1A
1B
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1C
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ID: **156**

Topic: **Cardiovascular Surgery > Coronary bypass surgery**

Presentation Type: **Poster**

# LONG-TERM SEQUELA OF RADIAL ARTERY VS SAPHENOUS VEIN CORONARY ARTERY BYPASS GRAFTING IN SOUTH ASIAN PAKISTANI POPULATION.

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[1]*Allama Iqbal Medical College/ Jinnah Hospital Lahore, Lahore, Pakistan*

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[6]*University of Oklahoma, Oklahoma, United States*

**Background:** Coronary artery bypass grafting is the treatment of choice for patients with left main and multivessel coronary artery disease. A combination of arterial and venous grafts has been used in CABG surgery, and a left Internal mammary graft is preferred because of the long-term survival rate. In contrast, bilateral internal mammary artery graft is discouraged in elderly diabetic patients because, if not harvested in a skeletonized way can increase the risk of sternal infection. We did a tertiary center study evaluating the quality of life in patients who underwent IMA+radial artery grafting vs. IMA+SVG over nine years by using the WHOQOL-5 quality of life questionnaire in the south Asian Pakistani Population.

**Method:** We retrospectively recruited 450 patients from the year 2012-2021 in a single tertiary care center. A total of 227 patients underwent CABG with internal mammary artery and radial artery conduits, and 223 patients underwent CABG with internal mammary and saphenous vein graft conduits. We telephonically contacted 356 (79.1%) patients, and 94 (20.9%) patients were lost to follow-up. After hospital discharge in IMA plus radial artery group, 20 (8.9%) patients died, whereas 21 died in SVG + IMA group (9.41%). The confounding factors like hypertension, hyperlipidemia, relapsed smoking, and diabetes was equalized among the two groups. The average duration of the study was 54 months with a primary median sternotomy approach. Our team inquired the study population about their quality of life using the QOL-5 (WHO questionnaire), which included mobility, self-care, usual activities, pain/discomfort, and anxiety. 81.25% (367) patients underwent Off-pump CABG, 15.44% (83) underwent On-pump CABG, and 3.3% (16) underwent intensive conversion On-pump CABG, as they did not tolerate Off-pump surgery.

**Results:** In the retrospective follow-up study at 54 months, 12 (6.1%) patients out of 201 in the IMA+radial artery conduit group got readmitted due to ischemic/cardiac chest pain, seven (58.3%) of 12 patients got repeated angiography and one (14%) of these seven patients got angioplasty, two (16.6%) of 12 patients did not undergo angiography, and one (8.3%) of 12 patients got a pacemaker. In the IMA + SVG conduits group, 44(28.2%) patients out of 156 patients got admitted for ischemic/cardiac chest pain, 23 patients out of 44 (51%) underwent angiography, and 13(56.52%) patients out of 23 underwent angioplasty, three out of 23 patients did not undergo angiography (13.04%). The ischemic disease recurrence incidence rate at 54 months was six percent in the IMA+radial artery group vs. 28.2 percent in the IMA+SVG group, with an increased attributable risk of 22.1% in the latter group with a p-value of p=0.02.

**Conclusion:** Our study revealed that the majority of South Asian Pakistani patients who underwent CABG with radial artery along with mammary artery enjoyed a good quality of life according to QOL-5 and had lesser ischemic cardiovascular events post bypass, which endorses longevity of radial graft when compared to SVG grafts.

ID: **172**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Poster**

# AORTIC INJURY DURING LAPAROSCOPIC APPENDECTOMY

**Yasin GUZEL**, Merih ALTIOK, Onur BENLI, Mustafa Kemal AVSAR, Mehmet Şah TOPCUOGLU

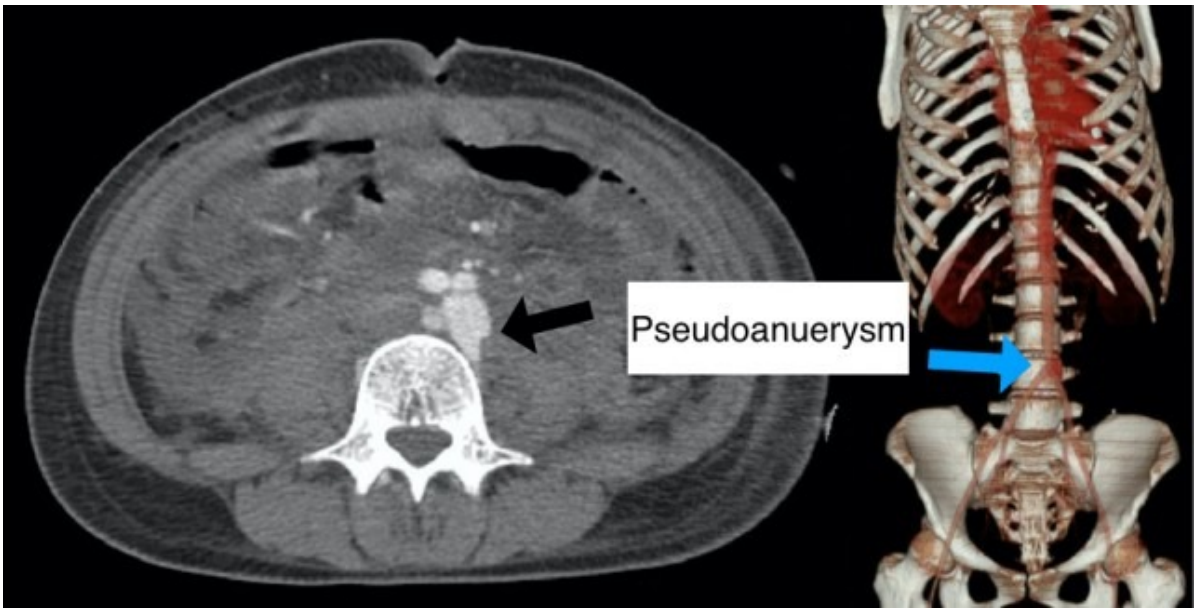
*Cukurova University, Adana, Turkey*

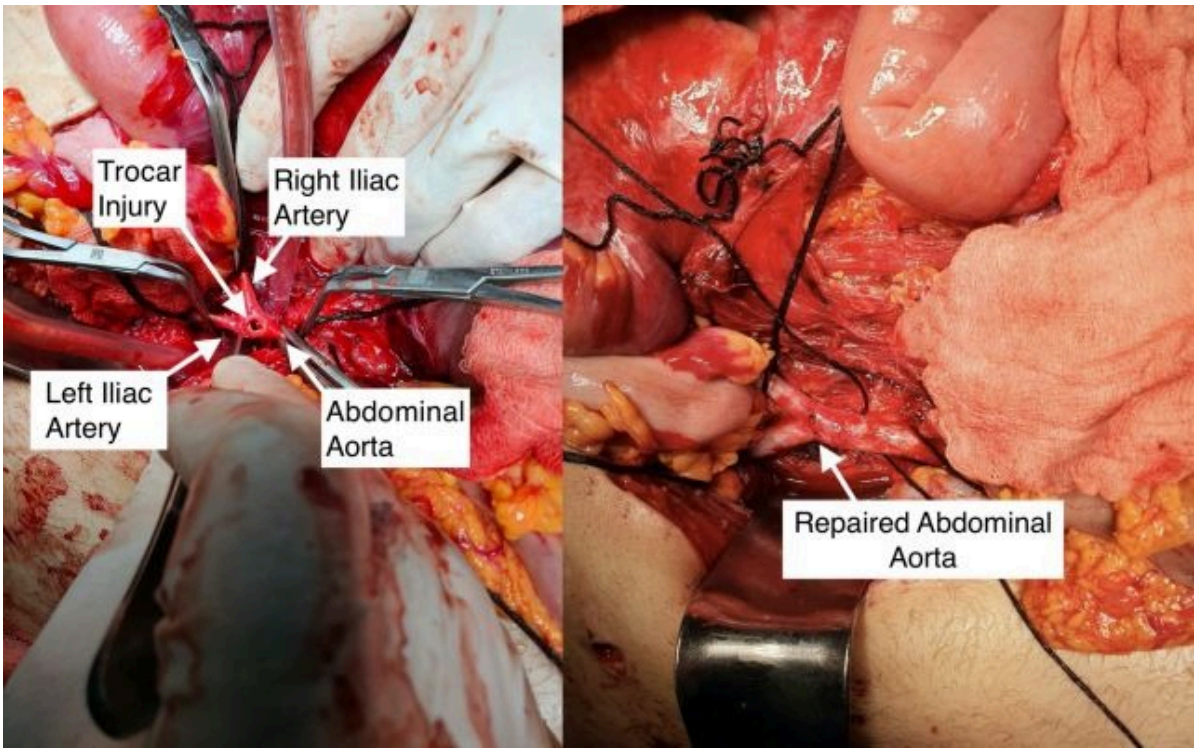
Introduction: As minimally invasive surgery becomes widespread, complications encountered in laparoscopic surgeries are also increasing. Major vascular injuries are rare, but catastrophic hemorrhages can be seen that can lead to death within minutes. We planned to present an aortic injury that occurred during the operation of a 23-year-old patient who had undergone laparoscopic appendectomy for acute appendicitis.

Case: A 23-year-old female patient with no known comorbidity was operated in an external center because of the symptoms of acute appendicitis. During the first trocar insertion from the umbilicus, when the patient developed a shock clinic, anesthesia rapidly began giving isotonic fluid. Laparoscopy camera showed blood in the abdomen and laparotomy was performed. Bleeding was observed in the aortic bifurcation during laparotomy, and it was controlled with suturing. After the operation was completed, the patient was referred to our center due to the development of hemodynamic instability. CT angiography showed (Figure 1), a 14*17 millimeter pseudoaneurysm and 22*28 millimeter hematoma associated with the aortic lumen were observed, extending posteriorly at the aortic bifurcation level. Reexploration was planned for the patient. During laparotomy, a sutured area including the small intestine mesentery was seen at the bifurcation level of the anterior aspect of the aorta. The aorta was dissected 3 cm above the injured line including the bilateral common iliac arteries. A trocar entry hole was observed in front of the aorta at the level of the bifurcation (Figure 2). Another laceration related to the trocar was seen in the posterior wall. The tissue between the anterior and posterior laceration was partially excised from the left lateral and repaired primarily with 4.0 prolene. The patient was discharged on the 8th day without any post-operative complications.

Discussion: Real data on the frequency and mortality of complications seen in laparoscopic procedures are limited. Organ and vascular injuries occur especially at the first laparoscopic trocar entries. When these injuries occur, the first intervention is life-saving.

Conclusion: In all minimally invasive surgeries, attention should be paid to organ injuries, and correct and effective intervention should be performed quickly.




Trocar Injury
Right Iliac Artery
Left Iliac Artery
Abdominal Aorta
Repaired Abdominal Aorta

ID: **174**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Poster**

# BRACHIAL PLEXUS INJURY DUE TO SUBCLAVIAN PSEUDOANEURYSM AFTER BONESETTER'S INTERVENTION ON RIGHT SHOULDER

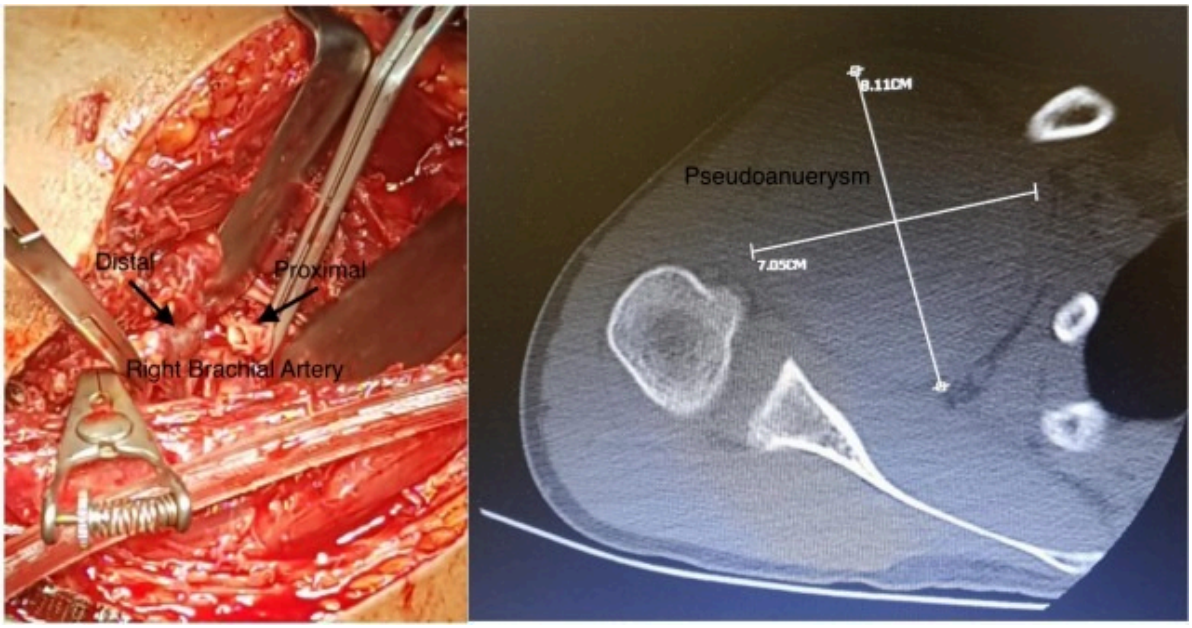
**Yasin GUZEL**, Onur BENLI, Mustafa Kemal AVSAR, Mehmet Şah TOPCUOGLU

*Cukurova University, Adana, Turkey*

**Introduction:** Indirect injury to the brachial plexus due to subclavian artery injury is rare. In this case, pseudoaneurysm formation and brachial plexus injury due to subclavian artery injury as a result of a bonesetter pulling on the patient's right shoulder is presented.

**Case:** A 14-year-old male patient developed right shoulder pain during swimming. Thereupon, the patient went to bonesetter, and after Bonesetter's intervention, swelling in his right shoulder, loss of sensation and motor in the right arm and hand developed, and he was included in the physical therapy and rehabilitation program. When a hematoma of 8*7 cm was detected in the right shoulder region in the computed tomography evaluated by the orthopedics, the patient who underwent hematoma drainage was taken to emergency operation due to massive bleeding. The patient underwent resection of the pseudoaneurysm, subclavian artery resection, and saphenous vein interposition (Figure 1). The arterial and venous flow of the patient, who was followed up in the postoperative intensive care unit (Figure 2), was found to be adequate on Doppler USG. His treatment was continued after panplexopathy was observed in upper extremity electromyography (EMG).

**Conclusion:** Pseudoaneurysms should be considered in swellings in arterial tracts. Doppler USG and contrast-enhanced computed tomography should be performed to investigate the pseudoaneurysm.



ID: **184**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Poster**

# 02 RECURRENT CARDIAC HYDATID CYSTS RUPTURED INTRAOPERATIVELY DURING ANESTHETIC INDUCTION FOR OPEN-HEART SURGERY: A CASE REPORT.

**Redha LAKEHAL**

*Department of heart surgery Dr Djaghri Mokhtar, 02 cité les freres Boukhalkhal Constantine, Algeria*

Introduction: Cardiac localization of hydatid disease is rare (<3%) even in endemic countries. Affection characterized by a long functional tolerance and a large clinical and paraclinical polymorphism. Serious cardiac hydatitosis because of the risk of rupture requiring urgent surgery. The diagnosis is based on serology and echocardiography. The aim of this work is to show one of the fatal complications of this condition which arose intraoperatively during anesthetic induction.

METHODS: We report the observation of a 37-year-old woman operated on in 2010 for a cardiac hydatid cyst presenting a recurrence of cardiac hydatid disease with two left intraauricular cysts expressed by palpitations with dyspnea. Preoperatively: dyspnea stage II of the NYHA. Chest x-ray: CTI: 0.58. ECG: RSR. Echocardiography: Two largest intra-atrial left cysts: 47 / 40 mm compress the origin of the right pulmonary vein, 2nd cyst of 36/28 mm. The existence of another small caliber lateral cyst. Positive hydatid serology. The patient developed an anaphylactic shock of unexplained cause, which required the assistive CPB facility. Intraoperative exploration: The both ruptured cysts in the left atrium with multiple left intra-atrial daughter vesicles. Gesture: Removal of daughter vesicles with sterilization with hypertonic saline.

Results: The postoperative consequences were favorable despite a prolonged stay in intensive care following a picture pulmonary infection.

Conclusion: Intracardiac rupture is a very serious complication and can produce dramatic pictures with sudden death. It can be responsible for allergic reaction, systemic embolism, pulmonary embolism and systemic metastases.

Keywords: Hydatid cyst, heart, relapsing, rupture, surgery, anaphylactic shock, cardiopulmonary bypass, prevention.

ID: **186**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Poster**

## SURGERY OF CARDIAC PARAGANGLIOMA: A CASE REPORT.

**Redha LAKEHAL**

*Department of heart surgery Dr Djaghri Mokhtar, 02 cité les freres Boukhalkhal Constantine, Algeria*

The cardiac paraganglioma is a very rare tumor,constituting only 1% of the cardiac tumors , of slow evolution what pose a diagnostic and therapeutic problem .The localizations carotidienne and jugulo-tympanic are most frequent, very seldom the aortic localization. The association of two, three or four localizations is possible in the multiple forms . These forms are generally met within a family setting .The surgical exerese is the treatment of first intention of these tumors. The surgical exerese is the treatment of first intention of these tumors. In the multiple forms, the therapeutic strategy must be adapted to each case : one starts generally initially , by the localization carotidienne .

We report the observation of woman a 57 years old diabetic presenting since one month palpitation and peaks hypertensifs whose exploration echocardiography revealed the presence of acardiac mass. It is the anatomopathologic study which confirmed diagnoses it. The originality of this observation rests on on the one hand the scarcity of the cardiac localization and on the other hand on the typical mode of the clinical expression of the cardiac paraganglioma.

Keywords: Paraganglioma, heart, surgery, cardiopulmonary bypass.

ID: **187**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Poster**

## SURGERY OF BIATRIAL MYXOMA : A CASE REPORT.

**Redha LAKEHAL**

*Department of heart surgery Dr Djaghri Mokhtar, 02 cité les freres Boukhalkhal Constantine, Algeria*

**Introduction:** The primitive cardiac tumors benign in 75 % of the cases and are dominated by the myxoma which is most frequently located in the left auricle .The term of myxoma biatrial gathers the cases where several myxoma located in the two auricles has each one a foot of establishment which is clean for him. of myxoma biatrial approximately 3.5% of the whole of the myxoma represent; they are most frequent of the plurifocal myxoma. This case is for us the occasion to show a biatrial localization of a cardiac myxoma.

**Methods:**

We report the observation of 51 year old patient without antecedents who was operated in urgency continuation has the fortuitous discovery of a mass biatrial has the echocardiography moved by a recent dyspnea . Functional class: II of the NYHA. Pulmonary radiography: cardiomegaly with CTI: 0.65.ECG:RRS.Echocardiography: biatrial tumor , LV: 53.3/70,5 mm, EF: 47.17 %, IM class II, IT class II .Chest CT was not carriedout considering the urgent character of the intervention. Exploration peroperative: biatrial myxoma with intact

interauricular septum and interventricular septum and leaks tricuspid in test of water. The gesture :Resection of the myxoma of the right atrium containing establishment on the free wall of the right atrium close to the IVC, resection of the myxoma of the left atrium containing establishment sweats interauricular septum ,closing of the interauricular defect by patch pericardial and tricuspid plasty

**Results:** The immediate postoperative course was unfavorable with complete auriculo-ventricular block requiring a final equipment and improvement of EF: 54% with anatomopathologic study in favour of a biatrial myxoma.
Conclusion: The cardiac myxoma developed starting from mesenchymateux embryonic residues with the level of the septum diagnosed primarily between 30 and 60 years , they can be discovered at any age with a clear female prevalence . Clinical symptomatology is dependent in keeping with the tumor, with its localization , its aspect like with its mobility. The echocardiography revolutionized the diagnosis of the myxoma of the left auricle by showing a mass of dense echoes behind the mitral valve. This examination , which can be supplemented by a MRI, will define the tumor: its situation , its unicity (5 % of the myxoma are multiple), its size, its form, its structure, its zone of insertion and its mobility. The treatment is primarily surgical and must be carried out before occur of the systemic embolisms or a mitral valvular obstruction.

**Key words:** Myxoma, biatrial, surgery, cardiopulmonary bypass.

ID: **189**

Topic: **Cardiology > Arrhythmias and antiarrhythmic therapy**

Presentation Type: **Poster**

## PACEMAKER LEAD TIP FIBROSIS SECONDARY TO CORONARY ARTERY INJURY CAUSED BY IMPLANTATION PROCEDURE.

**Mutlu Cagan SUMERKAN**, **Ayse Tumay CELBIS**, Murat KELBAS, Erol KALENDER, Hakan KILCI, Damla RAIMOGLOU , Furkan DOLAP, Kudret KESKIN, Serhat SIGIRCI, Ahmet GURDAL, Omer ALYAN

*Department of Cardiology, University of Health Sciences, Sisli Hamidiye Etfal Training and Research Hospital, Istanbul, Turkey*

BACKGROUND: Complication rates of cardiac pacemaker implantation are between 3% and 7.5%. In this article, we report two cases of chronic complications of pacemakers such as cardiac vessel perforation due to pacemaker lead tip insertion and fibrous tissue occurring around these vessels so the fibrotic lead encapsulation occurs.

CASE 1: A 73-year-old male with diabetes mellitus, hypertension, Parkinson and chronic obstructive pulmonary disease was admitted to routine cardiology polyclinic control. Laboratory findings were normal and vital signs were stable. The echocardiographic examination showed ……. In the pacemaker control, sensing and pacing problems were detected. Therefore, it was decided to exchange the pacemaker lead. In the catheter lab, the old lead cannot be extracted. And a new lead was inserted. In the angiographic and thorax CT views there was intense fibrosis tissue observed at the top of the pacemaker lead.
CASE 2:

CONCLUSIONS: Although there are publications about pacemaker complications it is the first to report a patient with implantation area fibrosis secondary to coronary vessel perforation. The path of the coronary arteries is an important parameter in pacemaker implantation, especially in pacemaker implantations with active fixation tips. Therefore assessment of coronary arteries by CT, echocardiography, or coroner angiography is key in planning cardiac pacemaker implantation procedures. Also, active fix lead deployment must be done meticulously, not hurried, by avoiding over-screwing.

ID: **190**

Topic: **Cardiovascular Surgery > Medical and surgical treatment of heart failure**

Presentation Type: **Poster**

## THREE DIFFERENT TREATMENT METHODS IN THREE DIFFERENT PATIENTS WITH LEFT VENTRICULAR ANEURYSM

**Aydemir KOÇARSLAN**, Gökhan ÖZERDEM

*Özel Antalya Yaşam Hastanesi, Antalya, Turkey*

Summary:Left ventricular aneurysms develop as a complication of acute myocardial infarction during the natural course of coronary artery disease. Left It can cause congestive failure, thromboembolic events and ventricular arrhythmias. The aim of the surgical treatment of left ventricular aneurysms is to cut the continuity of the non-contractile scar tissue with the contractile myocardium and to reduce the left ventricular cavity by reducing the hemodynamic disorder caused by ventricular aneurysms and its correctability after surgery.

İn our study first patient treated with only coronary artery bypass, second patient treated with CABG and modified endoventricular aneurysm surgery , third patient terated with only modified endoventricular aneurysm surgery.

Ventricular reconstruction was performed using endoventricular circular patch plasty (Dor procedure)

First endocardial encircling suture around the transitional zone between the scarred and normal tissue

Second endoventricular patch plasty around the transitional zone. Third lineer aneurysm patch plasty conducted.

Surgical experience in patients with left ventricular aneurysm is important for patient survival. The correct decision should be made on which patient will undergo ventricular aneurysm surgery and bypass.
In our study, only bypass was performed in our first patient because the left ventricular aneurysm was small and had sufficient viable tissue. Our second patient was a patient who developed a left ventricular aneurysm after proximal Lad occlusion, and only aneurysm treatment was applied. Our third patient was a patient with three coronary artery diseases and left ventricular pseudoaneurysm, mitral and tricuspid insufficiency. The patient was treated with triple bypass, MVR and tricuspid valve repair and left ventricular pseudoaneurysm.

ID: **192**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Oral**

# SURGERY OF HEART SARCOMA WITH INVASIVE MITRAL VALVE : A CASE REPORT.

**Redha LAKEHAL**

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years with no sex predilection. Patients present after variable periods of symptoms which are often non-specific, ranging from few weeks to several months and almost all are symptomatic at presentation .The diagnostic is made by imagery and pathological study .This new report case is an opportunity for us to make a reminder of this little-known entity among cardiologists and heart surgeon.

Methods: We report the case of 39 year old lady presented with 2 months history of acute onset dyspnea, lethargy weight loss, night sweats, and malaise. Clinical examination, blood tests and chest x ray were unremarkable. Her echocardiogram showed a large 3, 8 × 2, 4 cm echogenic multiple masses in left atrium with moderate mitral regurgitation. . Infiltrating the left atrial wall and mitral valve. A curative resection was deemed impossible. At surgery a large tumor was found arising from the left atrial side. It was solid in consistency and had a wide base. It was partly extending to mitral valve. The tumor was resected as completely as possible and mitral valve replacement under cardiopulmonary bypass.

Results: The immediate postoperative course was simple. At pathology, heart sarcoma was diagnosed. She underwent chemotherapy.

Conclusion: Heart surgery is the treatment of choice for sarcoma. The malignant tumors of the heart have a worse prognosis. Cardiac sarcomas generally lead to death within 2 years of diagnosis, due to rapid infiltration of the myocardium of the heart and obstruction of the normal flow of blood within the heart.

Key words: Sarcoma,tumor,surgery ,cardiopulmonary bypass.

ID: **194**

Topic: **Cardiovascular Surgery > Thoracic and thoracoabdominal aortic dissections and aneurisms**

Presentation Type: **Poster**

## SURGERY OF FALSE ANASTOMOTIC AORTIC ANEURYSM: A CASE REPORT.

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Introduction: False anastomotic aneurysms are exceptional and serious. The most serious complication is breaking, imprivisible and letal.Support for association reference surgical repair. The aim of our work is to remind of this exceptional complication in postoperative.

Methods: We report the observation of a woman aged 64 years operated from aneurysm of the segments 0 and 1 with benefit from intervention of modified Bentall .The diagnostic was reported in post operating by angiochest CT scan motive by chest pain or there reveal the externalization of control with false aneurysm periprothetique on the proximal anastomosis with increase of the false aneurysm on angiochest CT scan control realized after a week. Procedure per exploration after installation of cardiopulmonary bypass femoro-femoral left and induction of circulatory arrest to 19: big proximal aneurysm with exteriorization of blood from the left atrium roof. The gesture was after evacuation of the hematoma in setting flat of the false anevrysmale after evacuation of the hematoma.stregthening of the anastomosis by point and repair of the roof of left atrium.

Results: The suites immediate operating post were marks by a mediastinitis,endocarditis on aortic prosthesis complicated by acure ischemia of right lower limb to 18 day who benefit from one of the desobstruction by fogarty sensor and death in 20 days by septic shock.

Conclusion: False anastomotic aneurysms justify rapid intervention to prevent their rupture .The benchmark treatment is surgery.

Key words: False aneurysm, surgery, cardiopulmonary bypass.

ID: **196**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Poster**

# SURGERY OF CARNEY COMPLEX: A CASE REPORT.

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Introduction: The Carney complex is a genetic disease characterized by the association of pigmentary anomalies of the skin, myxoma, tumors or dysfunction of the endocrine tumors and the schwannomists . The prevalence is unknown. The goal of this work is to bring back a case of Carney complex.

Methods: We report the observation of 10 year old boy to the antecedents of testicular tumors having a mass in intraventricular left will. Pulmonary radiography : CTI: 0, 50. ECG: RSR. Echocardiography: Bilobate homogeneous mass has broad base of establishment with the level of the left ventricle. Exploration preoperative: Mass 07/05 cm has broad base of implantation encrusted in the left ventricular wall. The gesture was section of the ventricular mass carrying its base of implantation sent for anatomopathologic study.

Results: The immediate postoperative course was favorable.

Conclusion: Affection rare a dominant autosomic transmission responsible for myxomas , cutaneous pigmentation and endocrine hyperactivity. The cardiac myxoma appear at any age and meet in any cardiac cavity. The cardiac myxoma must be withdrawn by surgery. The treatment of the other demonstrations must be discussed and can include a follow-up , surgery or a medical care according to the localization of the tumor, its size , the existence of clinical signs of tumoral mass or hormonal excess, and of the suspicion of a malignant tumor.

Keywords: Myxoma, Carney complex, familial, surgery, cardiopulmonary bypass.

ID: **197**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Poster**

## RUPTURE OF THE CATHETER OF CHEMOTHERAPY WITH MIGRATION AND EMBOLISATION IN THE RIGHT ATRIUM: A CASE REPORT.

**Redha LAKEHAL**

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Introduction: Very rare, possible complication if the catheter were weakened during the installation, normally the technique of Seldinger with dilating makes it possible to avoid too much maltreating the catheter itself, classically favoured by the syndrome of the grip costo-claviculaire but especially as soon as there is aloop on the catheter especially at the fixed point of venous entry. The goal of this work is to bring back a case of complication of the plantable room of chemotherapy.

Methods: We report the observation of a 33 years old woman to the antecedents of left mastectomy associated with a radiotherapy and an auxiliary chemotherapy by plantable room presented a pain of the right shoulder without cardiac symptomatology. ECG: Without desorders. Pulmonary radiography showed the catheter into the right atrium. The echocardiography does not have objectified the catheter into intracardiac. The chest angioCT showed a free catheter into intracardiac desinsere of the device of chemotherapy rolled up in the right auricle then gaining the trunk of the pulmonary artery.

Results: The patient was put under narrow cardiologic monitoring.

Conclusion: The rupture of the catheter with migration and embolisation is a rare complication which requires a narrow and regular monitoring.

Keywords: Plantable probe, chemotherapy, migration.

ID: **202**

Topic: **Cardiovascular Surgery > Research**

Presentation Type: **Poster**

## TRICUSPID ENDOCARDITIS ON ELECTRICAL STIMULATION PROBES COMPLICATED BY SEPTIC SHOCK: A CASE REPORT.

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**Introduction:** The infection of pacemakers seriously compromises the prognosis of patients carrying these foreign materials. It most often affects the intracardiac probes, but also the valves, in nearly half of the cases. It concerns 1% of patients. The average age is over 60; fever, prolonged or intermittent, is present in 90% of patients; signs of infection of the box compartment are reported in 45% of cases; pulmonary manifestations are noted in 20-40% of cases. Adenoids are detected in 90% of cases in echocardiography. Staphylococci are responsible for 80% of infections. Antibiotic treatment comprising a bactericidal dual therapy implemented after bacteriological samples within a period that takes into account the mode of presentation of the infection, the terrain and the degree of certainty of the diagnosis. All equipment should be removed systematically whenever possible. Antibiotic prophylaxis is recommended at the time of placement of the endovascular material, and probably also during each manipulation. The aim of this work is to report a case of tricuspid endocarditis on stimulation probe complicated by septic shock.

**Methods:** We report the observation of a 32-year-old patient with a history of complete AVB fitted for 6 years transferred from the intensive care unit after stabilization of septic shock secondary to tricuspid infective endocarditis. Echocardiography: Dilatation of the right cavities, leakage massive tricuspid, images of vegetations in a string on stimulation probes, EF: 50% with relaxation disorder, SAPP: 55 mm Hg, dry pericardium and right pleural effusion. Thoracic CT angiography: No signs of pulmonary embolism left postero-basal pneumopathy, moderately abundant right pleural effusion with adjacent atelectasis. Operative exploration: Presence of two stimulation probes: one right auricular, the other right ventricular bearer of multiple vegetation in a string. The gesture: Removal of the two probes carrying with it the vegetations sent to bacteriology under assistance then tricuspid plasty and verification of the trunk of the pulmonary artery and its two branches, which are free after aortic clamping, and finally removal of the case sent to the bacteriology.

**Results:** The postoperative follow-up was simple.

Conclusion: Serious affection. Diagnosis and treatment require multidisciplinary care. Strict compliance with antibiotic prophylaxis during pacemaker's placement should reduce the incidence of this infection, whose morbidity and mortality are high.

**Key words:** Tricuspid endocarditis, stimulation probe, septic shock, vegetations, CPB.

ID: **204**

Topic: **Cardiovascular Surgery > Thoracic and thoracoabdominal aortic dissections and aneurisms**

Presentation Type: **Poster**

## AORTIC INJURY DURING REOPERATION: A CASE REPORT.

**Redha LAKEHAL**

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**Introduction:** Aortic wound during redux surgery is exceptional. The diagnosis is based on intraoperative exploration. The prognosis is grim. Treatment is based on surgery. The aim of this work is to make young surgeons aware of the seriousness of this incident.

**Methods:** We report the observation of a 35-year-old young man operated on 21 years ago for subvalvular aortic stenosis, presenting for several months with dyspnea on exertion, syncope with echocardiography of subvalvular aortic stenosis on a circumferential membrane. VG: 54/32 mm, PAPS: 70mm hg, FE: 70%. After iterative sternotomy, an aortic wound occurred during the ablation of steel wire expressed by a free jet of red blood, after heparinization, sternum closure, installation of a femoro-femoral SCC, intraoperative exploration after dissection retro sternal a blunt wound of the ascending aorta of about 01 / 01cm controlled by partial aortic clamping. the repair was made by backstitching on two Teflon strips.

**Results:** The postoperative consequences were simple.

**Conclusion:** Serious and exceptional intraoperative incident requiring rapid and effective surgical management.

**Keywords:** Aortic wound, surgery, cardiopulmonary bypass, prevention.

ID: **227**

Topic: **Cardiovascular Surgery > Minimally invasive mitral valve surgery**

Presentation Type: **Poster**

# MITRAL VALVE REPAIR FOR MITRAL INSUFFICIENCY DUE TO INFECTIVE ENDOCARDITIS IN HEMODIALYSIS PATIENT, CASE REPORT

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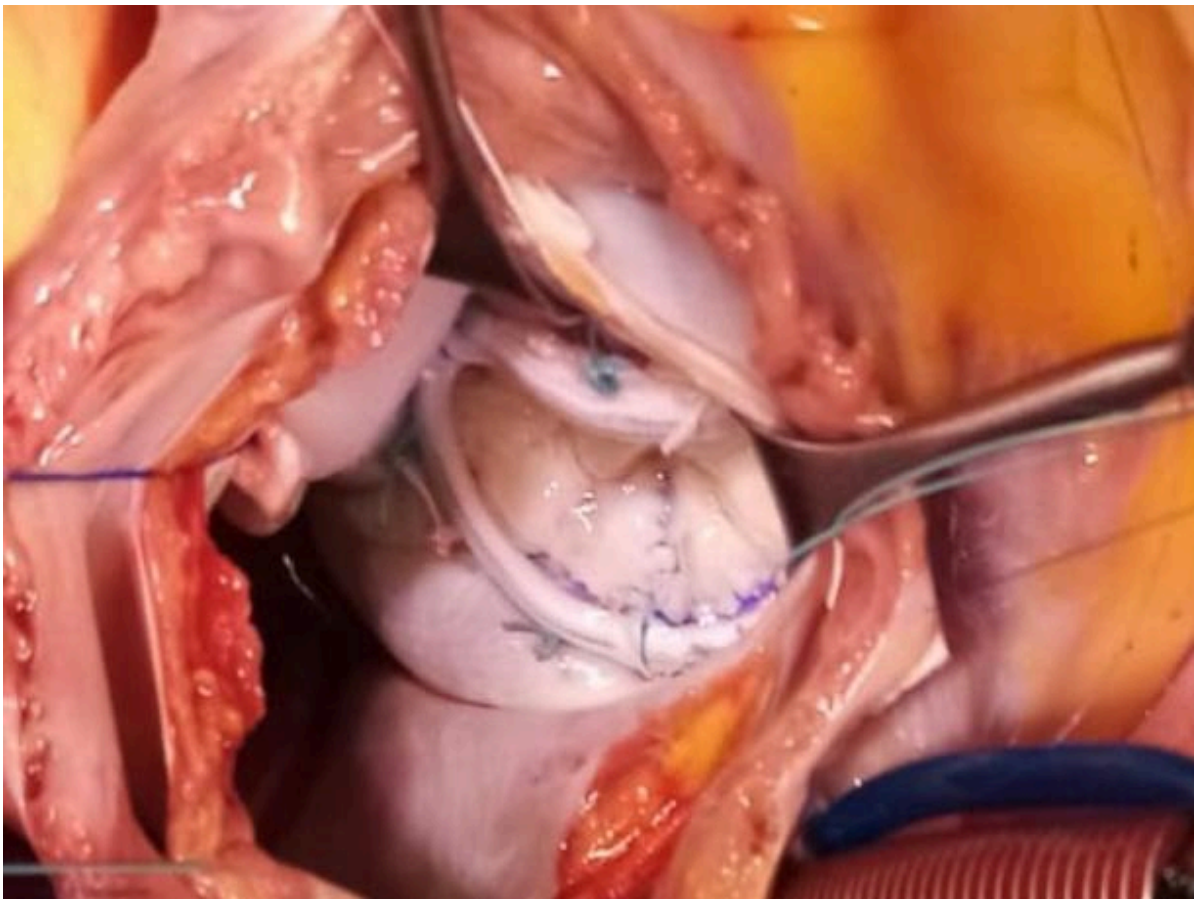

OBJECTIVE

Infective endocarditis and accompanying mitral valve insufficiency is a high-risk disease requiring cardiac surgery. The presence of infection, which is the most feared complication for valve surgery, before the operation increases the risk of the operation to be performed. Depending on the increasing experience in recent years, repair may be preferred instead of replacement in mitral valve endocarditis. In this case, we present the treatment of a very high-risk patient with infective endocarditis due to comorbidities with mitral valve repair.

METHODS

A 30-year-old female patient was hospitalized due to fever and general condition deterioration. The patient's history included uncontrolled type 1 diabetes, severe anemia, hemodialysis-dependent chronic renal failure, hepatomegaly due to Fabry disease, left upper extremity A-V fistula, and chronic bronchitis due to heavy smoking. The patient recently had covid-19 pneumonia and received covid-19 and bacterial pneumonia treatment but there had been no regress in infection parameters despite empirical antibiotic therapy (vancomycin + cefepim). Transthoracic echocardiography revealed degeneration and hyperechoic appearance on the the mitral valve. Transesophageal echocardiography was also comfirmed 1.9 x 1.2 cm vegetation on the mitral valve and grade 4 mitral insufficiency. The blood cultures of the patient was negative.Mitral surgery was performed after stabilizing patient’s hemodynamics.During the operation, vegetations and calcifications on the mitral valve annulus and posterior mitral valve were removed. The cleft at the P3-trigon junction was repaired with 5.0 prolene continuous suture and a 3D mitral ring annuloplasty was performed.

RESULTS

The patient was uneventfully disconnected from the cardiopulmonary bypass and extubated at the 6th hour postoperatively. In the postoperative control echocardiograms, no pathology was detected except for 1st degree mitral regurgitation and mild mitral stenosis. The patient was discharged after approximately 8 weeks of treatment. The cultures taken during the surgery were also negative.

CONCLUSIONS

We think that it is very beneficial to perform mitral valve repair, if possible, in patients with mitral regurgitation due to infective endocratitis. Especially in patients with chronic renal failure undergoing hemodialysis, repair may be preferred instead of replacement in mitral valve surgery, since the use of anticoagulants will be much less necessary and the risk of infection is less. We think that the risk of reoperation will be reduced by performing repair surgery in centers experienced in this field.

ID: **232**

Topic: **Cardiology > Cardiac imaging - Nuclear imaging**

Presentation Type: **Poster**

# A VERY RARE CAUSE OF MASSIVE PERICARDIAL EFFUSION: ERDHEIM-CHESTER DISEASE

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**Introduction**: Erdheim-Chester disease (ECD) is a rare form of non-Langerhans cell histiocytosis. It is characterized by granulomatous infiltration of histiocytes and fibrosis. Cardiac and vascular ECD develops due to infiltration of the pericardium, myocardium, and coronary arteries. Pericardial infiltration is the most frequent cardiac manifestation of ECD. This case report presented a rare cause of recurrent massive pericardial effusion.

**Case report**: A 61-year-old male patient was referred to our hospital with fatigue, dyspnea, and bilateral peripheric edema. He had a history of hypertension and coronary intervention due to acute coronary syndrome. Transthoracic echocardiography demonstrated severe pericardial effusion, normal ejection fraction, mild aortic and mitral regurgitation (Video.1)

The patient was consulted by hematology and oncology for the etiology. They recommended a true-cut biopsy from lymphadenopathy and also F-FDG PET scanning. PET scanning showed a 2.5 cm pleural and 4 cm pericardial effusion. Furthermore, mesenteric, retroperitoneal, and perinephric significant lipid accumulations (hairy kidney, which is specific for the disease) were found (Figure.1a-b).

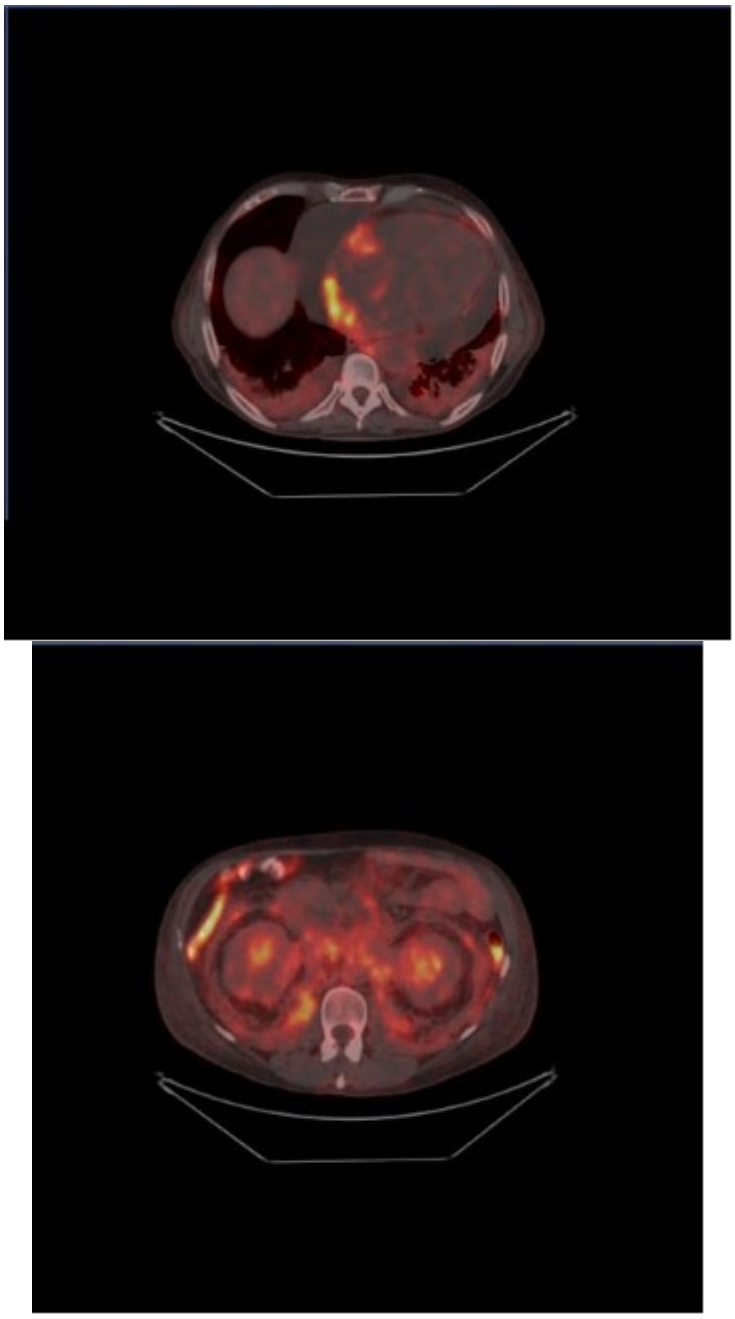

***Figure 1a-1b****: Transaxial PET/CT fusion images show FDG uptake in the right atrial wall, pleural effusion, and large pericardial effusion. Bilateral perirenal and periaortic involvement, retroperitoneal fibrosis, and irregular soft tissue thickening called "hairy kidney" and FDG uptake are observed at the renal level.*

The pathology report of the biopsy showed non-Langerhans cell histiocytosis, and findings were comparable with Erdheim-Chester disease. Firstly intravenous furosemide infusion and albümin were given for the edema. Also, it was decided to transcatheter pericardiocentesis, and 3,5 liters of pericardial fluid were drained. Colchicum and enoxaparin were added to the routine treatment. The patient's dyspnea and edema were relieved. The patient was transferred to the hematology department for treatment. Once daily, peg-interferon alfa-2a (subcutaneous) and prednisolone 60 mg (iv) were started. The patient's symptoms, especially fatigue, were relieved.CRP levels were reduced to 50 mg/dl. Low albumin levels, leukocytosis, and anemia remained at the last control.

**Conclusion**: ECD is a rare multisystem disease that involves cardiothoracic structures. Clinical suspicion and radiology play a crucial role in the management of this complex patient cohort. Knowing the imaging findings of ECD can facilitate early diagnosis, allow prompt multidisciplinary input, and timely treatment, potentially reducing morbidity and mortality.

ID: **234**

Topic: **Cardiology > Cardiac pacing for bradyarrhythmias**

Presentation Type: **Poster**

# AN INTERESTING CASE OF COMPLETE AV BLOCK

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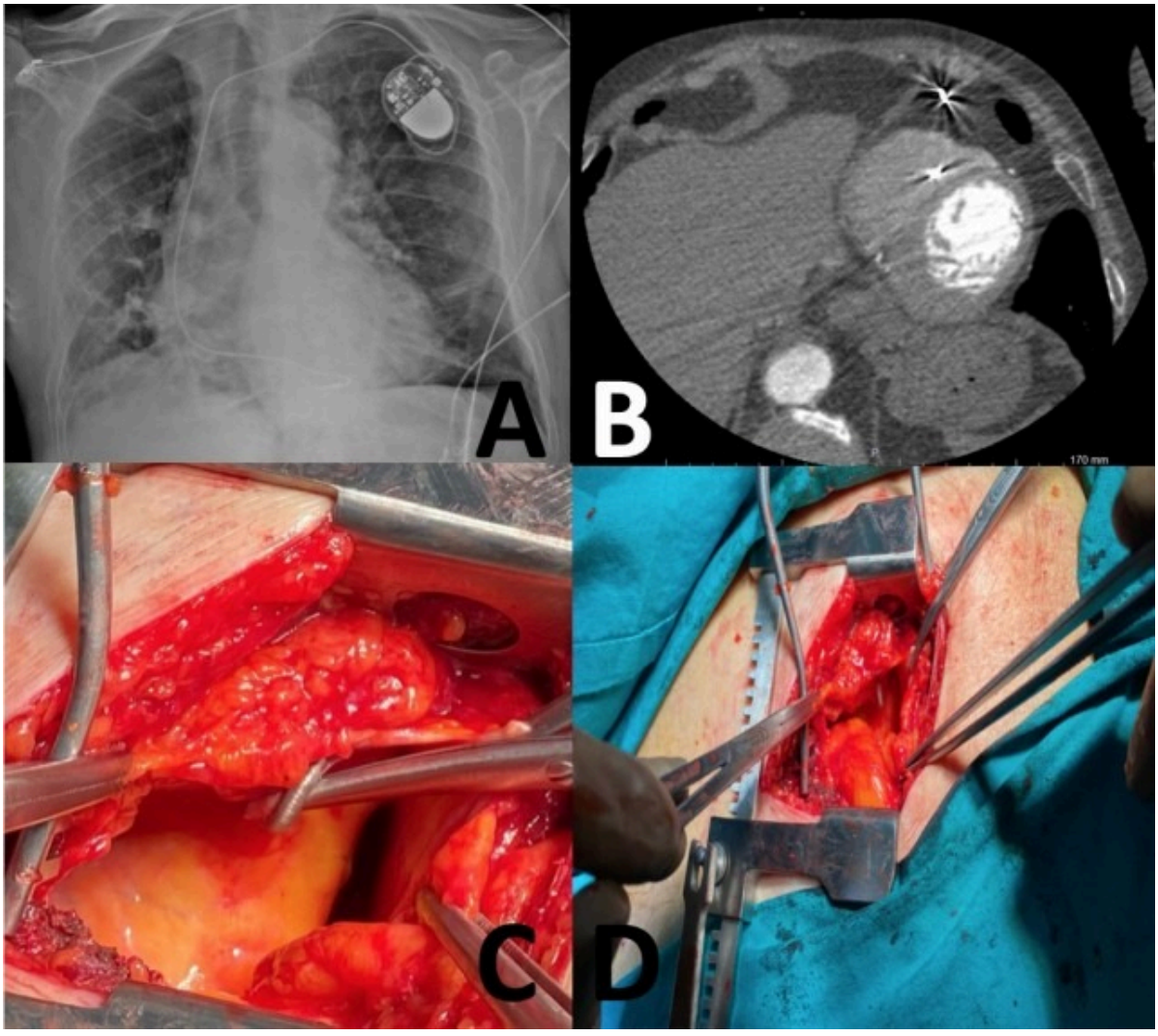


An 88-year-old male patient was admitted to our emergency department for syncope. In his medical history, it was learned that VVIR pacemaker was implanted 3 years ago due to complete AV block. Complete AV block was detected in the ECG of the patient. The patient was hospitalized and a temporary pacemaker was implanted. The patient's chest graph and computed tomography showed that the RV lead tip was protruding from the ventricular wall (Panel A-B). In the pacemaker control, it was determined that the battery was low and the voltage was too high. In the detailed history of the patient, it was learned that he had continuous stabbing chest pain for 1 year. Surgery was planned for the patient whose ventricular wall was perforated. The patient's lead and battery were surgically removed and the ventricular wall was repaired (Panel C-D). VVIR pacemaker was implanted in the right pectoral region in the same session. The patient was discharged with good recovery.

ID: **235**

Topic: **Cardiology > Chronic heart failure**

Presentation Type: **Poster**

# SUCCESSFUL TREATMENT OF ACUTE MYOCARDIAL INJURY OF DUCHENNE MUSCULAR DYSTROPHY WITH STEROIDS: A CASE REPORT

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Background: Duchenne muscular dystrophy (DMD) is an X-linked muscular disease which is caused by the absence of dystrophin. Troponin elevation with acute chest pain may indicate acute myocardial injury in these patients. We report a case of DMD that presented with ACP and troponin elevation, who was diagnosed with acute myocardial injury, and successfully treated with corticosteroids.

Case presentation: A 9-year-old with DMD was admitted to the emergency department with the complaint of acute chest pain. The initial 12-lead electrocardiogram revealed convex ST elevation in leads II, III, aVF, and V6, with reciprocal ST depression in V1-3 leads. Laboratory analysis revealed an elevated serum troponin T. Acute phase reactants, including C-reactive protein, were within normal limits. Molecular testing for myocarditis-associated viruses was negative for all viruses. The transthoracic echocardiography (TTE) demonstrated inferolateral and anterolateral hypokinesia with depressed left ventricular function. An ECG-gated coronary computed tomography angiography ruled out acute coronary syndrome. Cardiac magnetic resonance imaging revealed mid-wall to sub-epicardial late gadolinium enhancement at the basal to the mid inferior lateral wall of the left ventricle and corresponding hyperintensity on T2-weighted imaging, consistent with acute myocarditis. A diagnosis of acute myocardial injury associated with DMD was made. He was treated with anticongestive therapy and 2 mg/kg/day of oral methylprednisolone. Chest pain resolved the next day, and ST-segment elevation returned to normal on the third day. Troponin T decreased in the sixth hour of oral methylprednisolone treatment. TTE on the fifth day revealed improved left ventricular function.

Conclusion: Despite advances in contemporary cardiopulmonary therapies, cardiomyopathy remains the leading cause of death in patients with DMD. Acute chest pain attacks with elevated troponin in patients with DMD without coronary artery disease may indicate acute myocardial injury. Recognition and appropriate treatment of acute myocardial injury episodes in DMD patients may delay the development of cardiomyopathy.

ID: **238**

Topic: **Cardiology > Pulmonary arterial hypertension (PAH)**

Presentation Type: **Poster**

# EISENMENGER SYNDROME AND SWYER-JAMES-MACLEOD SYNDROME TOGETHER: A CASE REPORT

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Background: Swyer-James-MacLeod syndrome (SJMS) is a rare lung disease that appears as unilateral pulmonary hyperlucency on chest radiographs and is considered to occur as a result of childhood bronchiolitis obliterans. Ventricular septal defect (VSD) is the most common childhood congenital heart defect and, if left untreated, this will result to irreversible pulmonary hypertension and Eisenmenger syndrome. In this case report, we describe a 25-year-old female patient who had diagnosis of Eisenmenger syndrome and Swyer-James-MacLeod syndrome at the same time.

Case presentation: A 25-year-old female was admitted due to progressively worsening headache. It was learned from the medical history of the patient that she had been followed up with the diagnosis of VSD and Eisenmenger syndrome for 10 years. The patient had an oxygen saturation of 85-88%, blood pressure of 150/10 mmHg, heart rate of 45-50 beats per minute, temperature of 36.5 °C. Physical examination revealed systolic murmur in a pulmonary area and clubbing. Bilateral respiratory sounds were equal. Computerized tomography (CT) showed brain abscess. On the second day after admission, brain abscess resection were performed. The patient's postoperative oxygen saturation was 75-80% in room air. On her chest radiogram, she had a hyperlucent right lung and a small hilar shadow on the same side. Chest CT revealed thin right pulmonary artery and its branches, but the left pulmonary artery and its branches seemed to be wide. There were also findings of emphysema on the affected side. Perfusion defect was found in perfusion scintigraphy. The lesions in the ventilation scintigraphy were matched lesions. In the present case, the patient's clinical history, radiography images were compatible with SJMS and Eisenmenger syndrome.

Conclusions: Recurrence of infective bronchitis and bronchiolitis in childhood are considered pathognomonic for SJMS. This syndrome should be suspected in patients with atypical distribution of pulmonary emphysema and unilateral hyperlucency. Chest radiography alone can miss the diagnosis and further investigations should be performed when suspected. SJMS should be considered in the differential diagnosis and early diagnosis should be made so that inappropriate treatment can be prevented and the prognosis should be improved with appropriate treatment. In a literature review, we found only a few case reports mentioning an association between SJMS and pulmonary hypertension. According to our knowledge, this is the second case in the literature who has Eisenmenger syndrome and Swyer-James-MacLoad syndrome together.

ID: **239**

Topic: **Cardiovascular Surgery > Aortic valve surgery**

Presentation Type: **Poster**

# AORTOATRIAL FISTULA, RIGHT ATRIUM, RIGHT SINUS VALSALVA, CASE REPORT

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Introduction

Fistula formation between the aorta and the atrium is called aortoatrial fistula (AAF). AAF is a rare condition but can cause poor clinical situations. Aorto-atrial fistulas can be due to congenital and secondary causes. Secondary causes include aortic dissection, infective endocarditis, heart valve surgery, percutaneous procedures (cardiac catheterization or ablation) and other causes such as trauma.

Methods

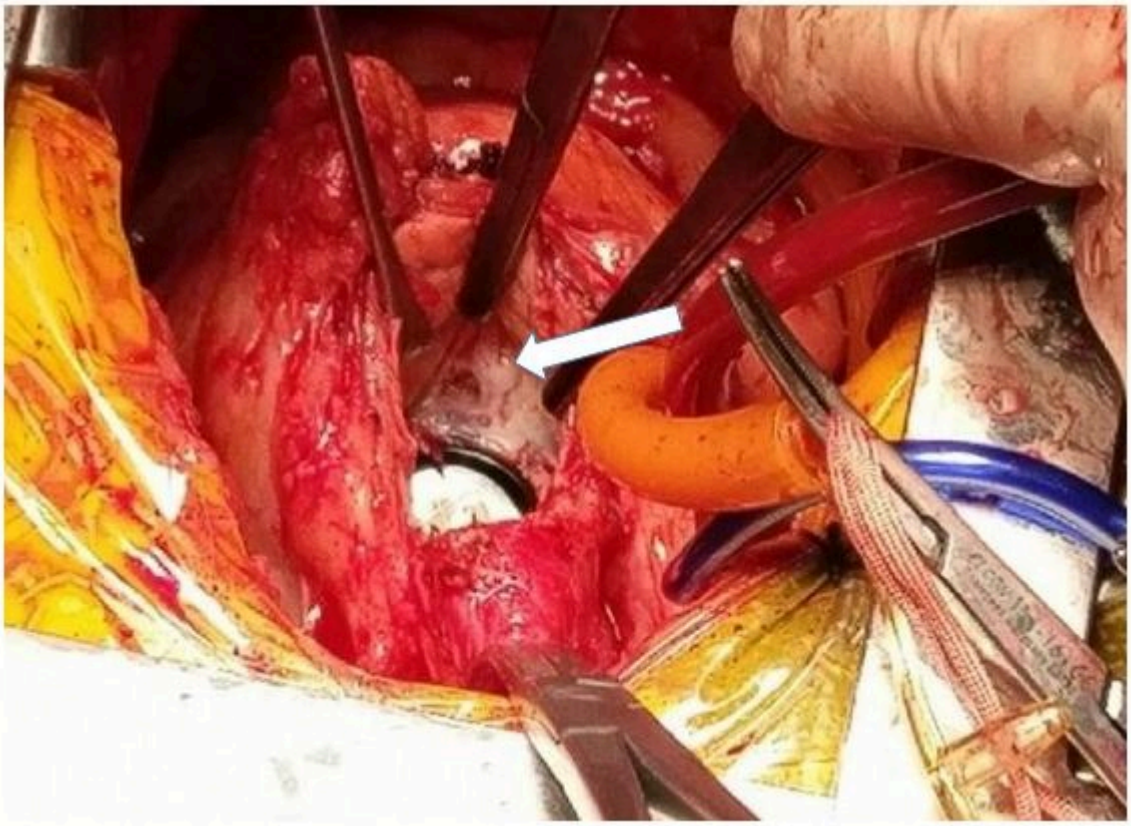
A 40-year-old male patient was admitted to our hospital with shortness of breath for the last month. In 2016, he underwent a 23 St Jude mechanical aortic valve replacement surgery because of severe calcific aortic stenosis. A DDDR pacemaker was implanted due to the formation of complete atrioventricular block after surgery. A new systolo- diastolic murmur was heard in the physical examination of the patient, who had two positive pretibial edema, ascites, orthopnea and paroxysmal nocturnal dyspnea.

Results

Transthoracic echocardiography showed a jet flow into the right atrium. A fistula with a diameter of 0.5 cm was observed between the right sinus valsalva and the right atrium on transesophageal echocardiography(TEE) images. Coronary angiography and aortography were performed. Fistula between the right coronary sinus and right atrium was also confirmed by aortography. Surgical closure was decided and it was closed with a pericardial patch. The closure was confirmed by TEE. The patient's complaints regressed and he was discharged asymptomatically.

Conclusion

The presence of aorto-atrial fistula should be considered in a patient with new clinical symptoms after aortic valve replacement or pacemaker implantation if a new onset murmur is heard.



ID: **251**

Topic: **Cardiology > Cardiac imaging - Echocardiography**

Presentation Type: **Poster**

# 3 CASES PRESENTING WITH MASSIVE INTRACARDIAC MASS

Rasit AKTAS[1], Sedat BAGLI[1], Sedef ÖKSÜZ[1], **Kaan YILDIZ**[1], Tulay DEMIRCAN[1], Onur ISIK[2], Rahmi OZDEMIR[3], Cem KARADENIZ[3], Nazmi NARIN[3]

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3 Cases Presenting with Massive Intracardiac Mass

Raşit Aktaş1, Sedat Bağlı1 , Sedef Öksüz1, Kaan Yıldız1, Tülay Demircan1, Onur Işık2,
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Introduction:

Cardiac tumors are benign or malignant neoplasms arising from the endocardium, myocardium, or pericardium. Primary cardiac tumors are rare, with a prevalence of 0.0017-0.28 in autopsy series. The incidence of cardiac tumors in fetuses has been reported as 0.14%. Two cases with massive mass and a newborn case with multiple intrauterine masses are presented.

Case 1

A 5-year-old male patient applied to an external center with fatigue, vomiting, weight loss and abdominal pain that had persisted for the last 3 months, and dyspnea that started 2 weeks ago. He was referred to our center after an intracardiac mass was detected in echocardiographic imaging. In echocardiographic imaging, a large surface adherent to the right atrium walls and interatrial septum, and the border between the interatrial septum and the interatrial septum could not be clearly distinguished. The size of the mass, which filled most of the right and left atrium cavities, was 6.4 x 3.9 cm. Pericardial tamponade was detected in addition to RV inlet and outlet stenosis.

The patient with severe dyspnea, severe eyelid edema and neck vein engorgement was operated by pediatric cardiovascular surgery after consultation with pediatric oncology. The mass was partially resected. The tumor completely districts the tricular septal leaflet, and the pathological diagnosis resulted in a high-mezenkimal cell tumor. Complete atrioventricular block developed in the patient on the 8th postoperative day. A temporary pacemaker was inserted in the patient.

Case 2

A 17-year-old male patient was admitted to an external center with complaints of nausea, loss of appetite, and abdominal swelling that started one week ago. He was referred to our center due to cardiac mass appearance and pericardial effusion detected in his

echocardiographic imagination. The patient was evaluated in our center, and echocardiographic imaging revealed a 7 x 3.5 cm mass in the right atrium and a prominent pericardial effusion in the posterior walls of the left and right ventricles. The patient was operated by pediatric cardiovascular surgery. The intraoperative tumor originated from the right atrial free wall pectinate muscles. In the operation, the tumor was seen stretching from the tricuspid cover to the RV cavity. The tumor with the capsule has been removed with the right atrial wall. The right atrium primer has been repaired. The patient, who was reported as angiosarcoma as a result of the biopsy performed after the mass excision, has been followed up and treated by us and pediatric oncology department for 1 year.

Case 3

In the fetal echocardiography performed at the 33rd gestational week of the mother with tuberous sclerosis, multiple masses, the largest of which is 15 x 13 mm, extending from the apical region of the Interventricular Septum to the left and right ventricles were detected. The patient was followed up with the suspicion of fetal rhabdomyoma. Echocardiography of the baby after birth revealed an 11x15 mm mass in the interventricular septum in the posterior wall of the left ventricle, close to the apex and a mass of 9.5 x 6 mm in the posterior wall of the right ventricle. A 15 x 9 mm mass was observed in the right ventricle, involving the posterior part of mitral valve and close to the atrioventricular node. The patient no cardiac tamponade was admitted to the Neonatal Intensive Care Unit for observationwith.

Discussion:

The most common primary cardiac tumor in the fetus, infants and children is rhabdomyoma . Rhabdomyomas, which constitute more than 60% of all primary heart tumors, are usually located within the ventricles and may rarely originate from the atria. Malignant tumors of the heart are extremely rare. 95% of all primary cardiac malignancies are sarcoma. Angiosarcomas are the most common primary malignancy and are more common in males.Clinical findings include right-sided heart failure, pericardial disease, pleuritic chest pain, dyspnea, and pericardial effusion. Surgical resection of primary cardiac tumors should be considered only to relieve symptoms and mechanical obstruction in blood flow. The prognosis of malignant primary cardiac tumors is poor. Surgery, chemotherapy and radiotherapy can prolong the survival of patients.

Picture 1: Echocardiography image of the first case

Picture 2: Echocardiography image of the 2nd case filling the right atrium and extending to the right ventricle

Picture 3: Fetal echocardiography image of case 3

References

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ID: **255**

Topic: **Cardiology > Acute coronary syndromes**

Presentation Type: **Poster**

# A Case of ST Depression Triggered by Hyperventilation Mimicking Myocardial Ischemia

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A Case of ST Depression Triggered by Hyperventilation Mimicking Myocardial Ischemia

Introduction

Although acute coronary syndrome is not common in children compared to adults, it should be considered in the differential diagnosis of children presenting with chest pain. Electrocardiography (ECG) plays a very important part in this process. In this report, a 10-year-old girl with diffuse ST changes in her ECG secondary to hyperventilation is presented.

Case

A 10-year-old female patient was referred to our clinic with a prediagnosis of myocardial ischemia due to substernal chest pain and compatible ECG changes. The patient was anxious and hyperventilating. This state of anxiety and hyperventilation had been present for 3 days and was accompanied by tingling in the lips and fingers. She was normotensive (116/71 mmHg), tachycardic (138/min), and tachypneic (48/min). The remaining physical examination was normal. Performed echocardiography and troponin level was normal, and blood gas results were compatible with compensated respiratory alkalosis (pH:7.42, pCO2:26 mmHg, HCO3:19 mmHg). The electrocardiography revealed sinus tachycardia and ST depressions in all leads except aVR (Figure 1). The patient was suspected of myocardial ischemia and myocarditis. After her tachycardia and hyperventilation subsided, no ST depressions were present in her second ECG (Figure 2). Since no coronary pathology was detected in the coronary CT angiography, and the troponin levels were normal in her follow-up, the ST depressions in the first ECG were thought to be secondary to hyperventilation. Acute coronary pathology was ruled out. The patient was then consulted with the departments of pediatric pulmonology and pediatric surgery when pneumomediastinum and emphysema were detected in the CT. These CT findings were thought to have developed secondary to hyperventilation. The patient was later consulted with the department of child and adolescent psychiatry and diagnosed with panic disorder. Propranolol treatment was initiated for tachycardia and she was discharged afterwards.

Discussion

Chest pain in children is 96% of non-cardiac origin. Three most common causes are costochondritis, chest wall pathologies and respiratory diseases. Psychogenic causes are common, especially in adolescent girls. Hyperventilation syndrome is one cause of psychogenic chest pain and usually encountered in adults. The sympathetic nervous system is stimulated secondary to hyperventilation, and the heart rate increases. Heterogeneous vasoconstriction in different layers of the myocardium can lead to repolarization abnormalities. Our case was initially evaluated for ischemia, but ischemic pathology wasn't detected. ECG changes secondary to hyperventilation should be considered in anxious, tachypneic and hyperpneic children with diffuse ST depressions in their ECGs.

Figure 1

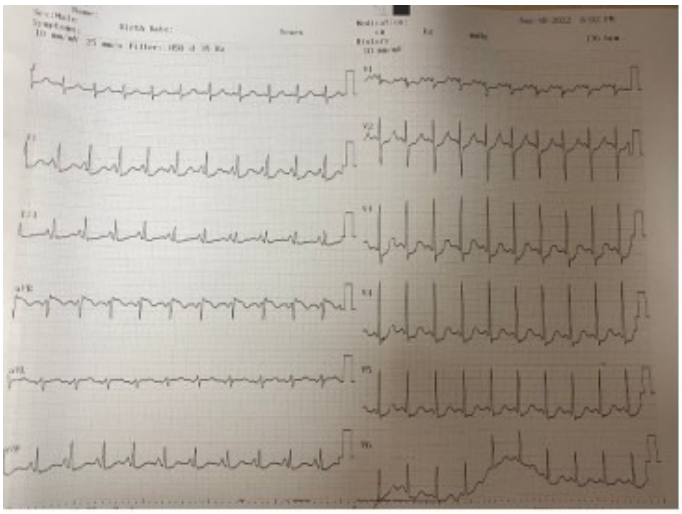
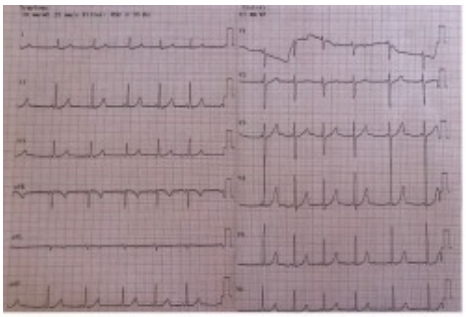


Figure 2



ID: **257**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Poster**

# ARTERIOVENOUS MALFORMATION OF THE LOWER EXTREMITY: A CASE REPORT

**Yasin GUZEL**, Akif MIRIOĞLU, Ferhat Can PISKIN, Mustafa ÇELIK, Kıvılcım EREN ERDOGAN, Gulfiliz GONLUSEN, Mehmet Şah TOPÇUOĞLU

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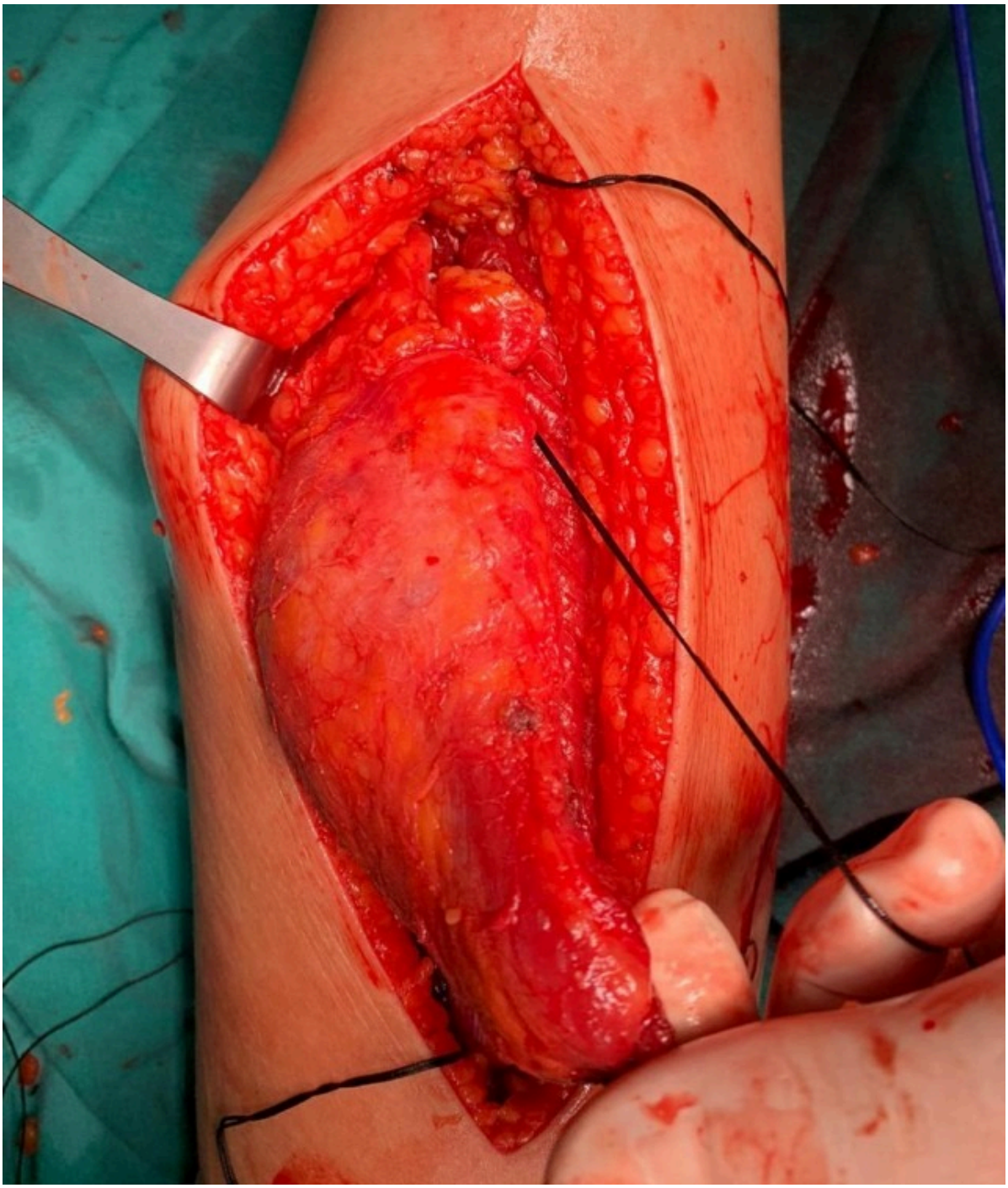
Arteriovenous malformations are abnormal connections between arteries and veins that bypass capillaries. They can be seen all over the body. Large AVMs can lead to various complications. In this case, we aimed to present the surgical management of a complicated AVM.

Case: A 14-year-old female patient applied to our center with complaints of swelling and pain in the left leg for 3 years. CT scan showed a soft tissue lesion of 3*5*8 cm in the left gastrocnemius muscle, partially lobulated, with wide arterial structures in the arterial phase and large venous structures in the venous phase.(Figure 1) Due to the presence of mixed type AV malformation, surgery was planned for the patient. After adequate preparation, the patient was taken into operation. The lateral head of the gastrocnemius muscle was totally excised.(Figure 2) The patient, who was given an exercise program on the post-operative 4th day, was discharged on the 5th post-op day. Pathology was reported as "intramuscular hemangioma".

Argument:
Hemangiomas are benign vascular tumors of childhood. While some involution can be seen in adulthood, some of them grow and become complicated as the patient grows. These malformations can be seen as a single, multiple, or part of genetic disorders. Although endovascular techniques are used in the treatment, surgery is applied where endovascular techniques are insufficient. In our case, surgery was chosen as the appropriate treatment method due to the compression complications. However, all AV malformations require a multidisciplinary approach.



ID: **259**

Topic: **Cardiovascular Surgery > Perfusion course**

Presentation Type: **Poster**

# IS IT SAFE TO USE MODIFIED DEL NIDO CARDIOPLEGIA FOR MYOCARDIAL PROTECTION?

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Background: The aim of this study is to determine safety of modified Del Nido Cardioplegia solution usage in open heart surgery, considering the spontaneous contraction of the myocardium and ventricular fibrillation after the removal of aortic cross clamp.

Methods: Patients with valve, myxoma, ascending aortic aneurysms and aortic dissection patients who underwent modified Del Nido cardioplegia at the Department of Cardiovascular Surgery of Manisa Celal Bayar University Hafsa Sultan Hospital between January 2018 and March 2022 were retrospectively screened. Modified Del Nido cardioplegia was applied 20 ml/kg (1000 ml maximum) and top-up doses delivered after 90 minutes if required. After the aortic cross-clamp was removed, the rate of spontaneous cardiac contaction and fibrillation of the heart were observed. We assumed the absence of fibrillation as an indication of good myocardium protection.

Results: The study involved 163 patients (86 male/ 77 female) undergoing cardiac surgery with the use of modified Del Nido Cardioplegia. Mean age of the patients was 56,7±13. Demographic data, laboratory values and operative characteristics of the patients were evaluated. Beginning of spontaneous cardiac contractions was observed in 131 patients (%81), and 32 patients (19.6%) needed defibrillation. A single dose of cardioplegia was given to 108 patients while 55 patients recieved an additional maintenance dose of cardioplegia. Mean lactate level after termination of cardiopulmonary bypass was 2,9±4,3.
Conclusion: We think that this method is safe for myocardial protection since the heart contractions started spontaneously in 80.4% of the patients in whom we used modified Del Nido cardioplegia, which is a long-acting cardioplegia method.

ID: **261**

Topic: **Cardiology > Percutraneous coronary interventions**

Presentation Type: **Poster**

# GIANT OVARIAN TUMORAL RESECTION IN END STAGE HEART FAILURE PATIENT WITH LEFT VENTRICULAR ASSIST DEVICE

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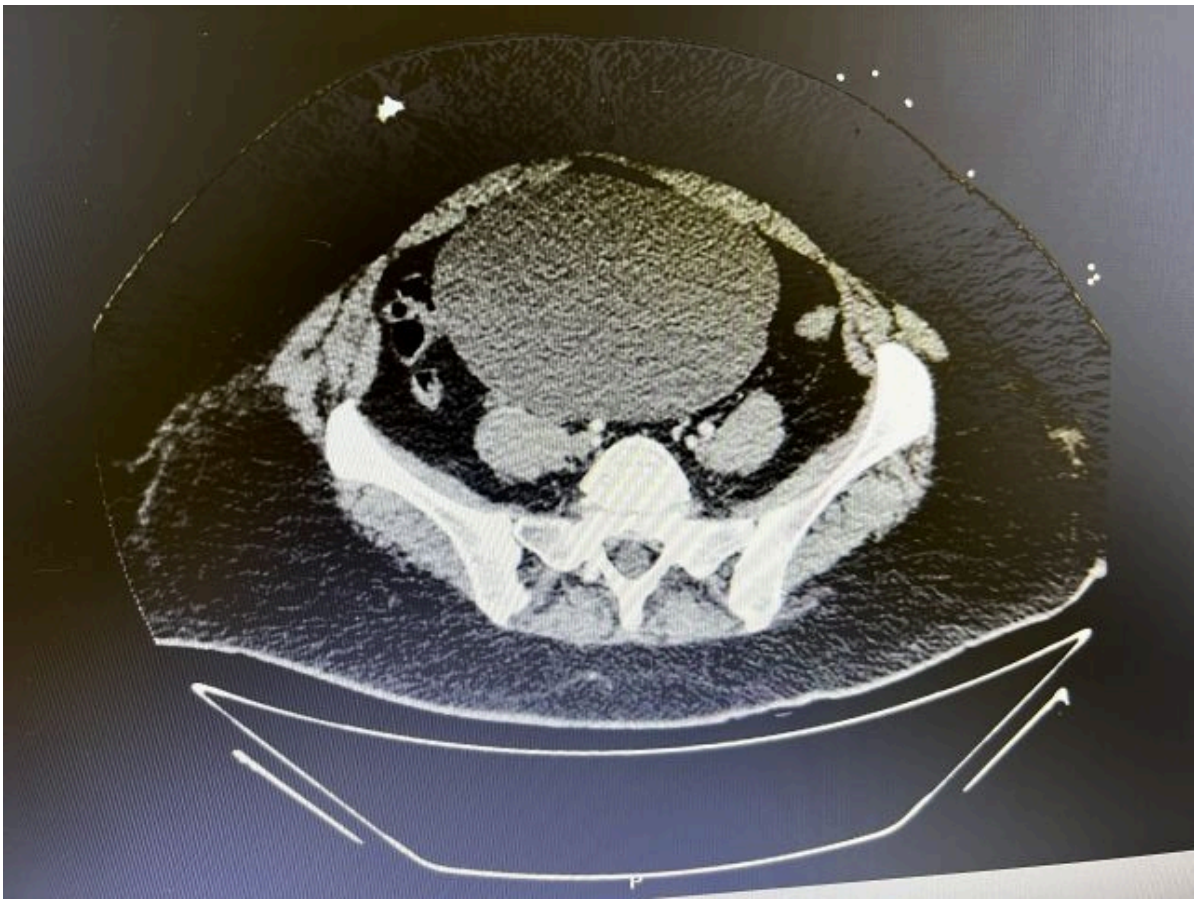

OBJECTIVE: Advanced heart failure is related to worse prognosis. If medical management is inadequate, the use of a left ventricular assist device (LVAD) is an essential treatment option for patients with advanced heart failure, as both a bridge to transplant and a destination therapy.
Number of patients with LVAD is increasing worlwide. As a result it is more common for them to present for noncardiac surgical procedures. Management of patients with LVAD in the perioperative period is challenging and necessitates a multidisciplinary team with members of heart failure team.
We report a patient with LVAD implanted for advanced heart failure who required laparotomic giant ovarian tumoral resection.
METHOD(CASE): A 40 year-old woman with a history of myocardial infarction and ischemic dilated cardiomyopathy presented with progressive dyspnea. She had advanced heart failure criteria with frequent hospitalizations despite optimal medical therapy. She was already on the transplant waiting list. On physical examination, the patient was awake and orthopneic. She was hypotensive (85/50 mmHg), tachycardic (115 bpm) and afebrile. She had cold extremities and distended jugular veins. Her oxygen saturation was 90% at room air. Fine crackles were heard at the basal to mid lung bilaterally. Grade 3/6 holosystolic murmur, heart best at the apex. The abdomen was distended with a palpabl hepatomegaly. There was grade 3 bipedal pitting edema. On echocardiographic examination, LVEF was %20. There was moderate mitral regurgitation with elevated pulmonary artery pressure. Right ventricle functions were preserved. Low cardiac output with high PCWP and high PVR were measured by heart catheterisation. Therefore she was not a transplant candidate. After discussion with the patient, the heart failure team decided to proceed with LVAD implantation procedure. LVAD implantation was completed according to the standard procedure. Two weeks after hospital discharge she came hospital with complain of pain on her left pelvic region. On CT there was an ovarian mass sized 17x16 mm(figure 1).
RESULT: She was consulted with gynecologic surgeons. After discussion with the patient, the heart failure team and gynecologic surgeons decided to proceed laparoscopic surgical resection of the tumor(figure 2). During resection of the tumor, adjustments of the device was done by transeosephageal echocardiography guidence. Pathology of the tumor was reported as mucinoma. The patient had an uneventful post-operative course and successfully discharged with a dramatically improved clinical status.
CONCLUSION: Patients with the implanted LVAD can be successfully managed during non cardiac surgery with the help of a multidisciplinary team.

ID: **263**

Topic: **Cardiovascular Surgery > Pulmonary arterial hypertension (PAH) Summit**

Presentation Type: **Oral**

# MEDICAL TREATMENT OF PULMONARY HYPERTENSION IN ADULTS WITH CONGENITAL HEART DISEASE: UPDATED AND EXTENDED RESULTS FROM THE INTERNATIONAL COMPERA-CHD REGISTRY

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Background: Pulmonary arterial hypertension (PAH) is common in congenital heart disease (CHD). Because clinical-trial data on PAH associated with CHD (PAH-CHD) remain limited, registry data on the long-term course are essential. This analysis aimed to update information from the COMPERA-CHD registry on management strategies based on real-world data.
Methods: The prospective international pulmonary hypertension registry COMPERA has since 2007 enrolled more than 10,000 patients.

COMPERA-CHD is a sub-registry for patients with PAH-CHD.
Results: A total of 769 patients with PAH-CHD from 62 specialized centers in 12 countries were included into COMPERA-CHD from January 2007 through September 2020. At the last follow-up in 09/2020, patients [mean age 45.3±16.8 years; 512 (66%) female] had either post-tricuspid shunts (n=359; 46.7%), pre-tricuspid shunts (n=249; 32.4%), complex CHD (n=132; 17.2%), congenital left heart or aortic valve or aortic disease (n=9; 1.3%), or miscellaneous CHD (n=20; 2.6%). The mean 6-minute walking distance was 369±121 m, and 28.2%, 56.0%, and 3.8% were in WHO functional class I/II, III or IV, respectively (12.0% unknown). Compared with the previously published COMPERA-CHD data, after 21 months of follow-up, the number of included PAH-CHD patients increased by 91 (13.4%). Within this group the number of Eisenmenger patients rose by 39 (16.3%), the number of "Non-Eisenmenger PAH" patients by 45 (26.9%). Currently, among the 674 patients from the PAH-CHD group with at least one follow-up, 450 (66.8%) received endothelin receptor antagonists (ERA), 416 (61.7%) PDE-5 inhibitors, 85 (12.6%) prostacyclin analogues, and 36 (5.3%) the sGC stimulator riociguat. While at first inclusion in the COMPERA-CHD registry, treatment was predominantly monotherapy (69.3%), this has shifted to favoring combination therapy in the current group (53%). For the first time, the nature, frequency, and treatment of significant comorbidities requiring supportive care and medication are described.
Conclusions: Analyzing "real life data" from the international COMPERA-CHD registry, we present a comprehensive overview about current management modalities and treatment concepts in PAH-CHD. There was an trend towards more aggressive treatment strategies and combination therapies. In the future, particular attention must be directed to the "Non-Eisenmenger PAH" group and to patients with complex CHD, including Fontan patients.

ID: **265**

Topic: **Cardiovascular Surgery > Mitral valve surgery**

Presentation Type: **Poster**

# A dual-pathogen mitral valve endocarditis caused by Coxiella burnetii and Streptococcus gordonii – which came first?

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Background:

Infective endocarditis (IE) is still a life-threatening disease with high morbidity and mortality. While usually caused by a single bacterium, poly-microbial infective endocarditis (IE) is rare. Here we report a (culture-negative) dual pathogen mitral valve IE caused by Coxiella burnetii and Streptococcus gordonii: A 53- year old women presented to an internal medicine department with abdominal pain for further evaluation. Within the scope of the diagnosis, transthoracic echocardiography (TTE) revealed distinct from cardiac surface an irregularly shaped, echogenic mass (5 x 13 mm) adherent to the edge of the posterior mitral valve leaflet and protruding into the left atrium. As IE was suspected, blood cultures were initially obtained, but they remained inconclusive. While analyses for atypical endocarditis organisms were also negative, chronic Q-fever infection was diagnosed by serologic testing. After the occurrence of cerebral thromboembolic events the patient was admitted for mitral valve surgery. Intraoperatively, a massively destructed mitral valve with adhering vegetations was noted. Microbiological examination of the mitral valve confirmed Coxiella burnetii infection. Additional nucleic acid amplicon sequencing yielded an infection-positive result in bacterial polymerase chain reaction (PCR) and a mixed sequence of Coxiella burnetii and Streptococcus gordonii. Based on the detailed diagnosis, appropriate antibiotic therapy of both pathogens could be initiated and the patient could be discharged uneventfully on the 11th postoperative day after successful minimal-invasive mitral valve replacement.

Conclusion: IE has still a high morbidity and mortality. Therefore, correct and early diagnosis and treatment are crucial for the prognosis. Usually, IE is caused by a single bacterium, but the proportion of culture-negative IE accounts for up to 10%. Poly-microbial IE, as described in the current case report, is quite rare. In particular, the combination of Coxiella burnetii and Streptococcus gordonii as causative agents of IE is exceptional. The presented case proves, that atypical pathogens should always be considered in suspected IE. Particularly with negative blood cultures, further extended diagnostic procedures and tests should be employed to avoid a fatal course of IE and in order to start targeted therapy. The presented case underlines the option and advantage of minimally invasive surgery in IE of the mitral valve. As the prognosis of IE deeply depends on early diagnosis, interdisciplinary cooperation between representatives of cardiology, cardiac surgery, infective disease, microbiology and pathology departments, affected patients with IE are cared for in a tertiary care center with a dedicated expert team. Lastly, we would like to emphasize that regular follow-up of such patients is of utmost importance.

ID: **271**

Topic: **Cardiology > Cardiac pacing for bradyarrhythmias**

Presentation Type: **Poster**

# LEADLESS PACEMAKER İMPLANTATİON TO AN OLDER AGE PATİENT

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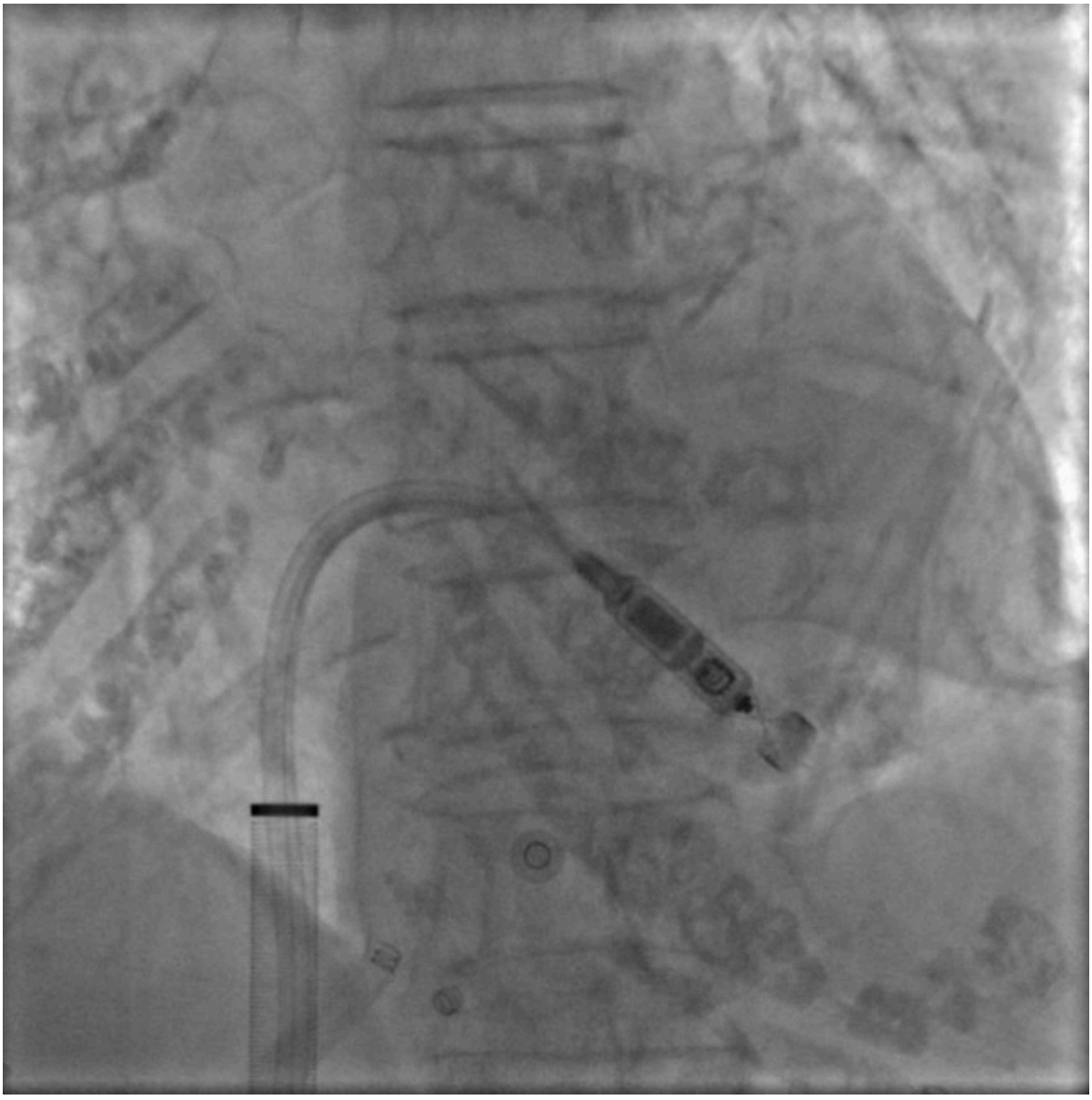

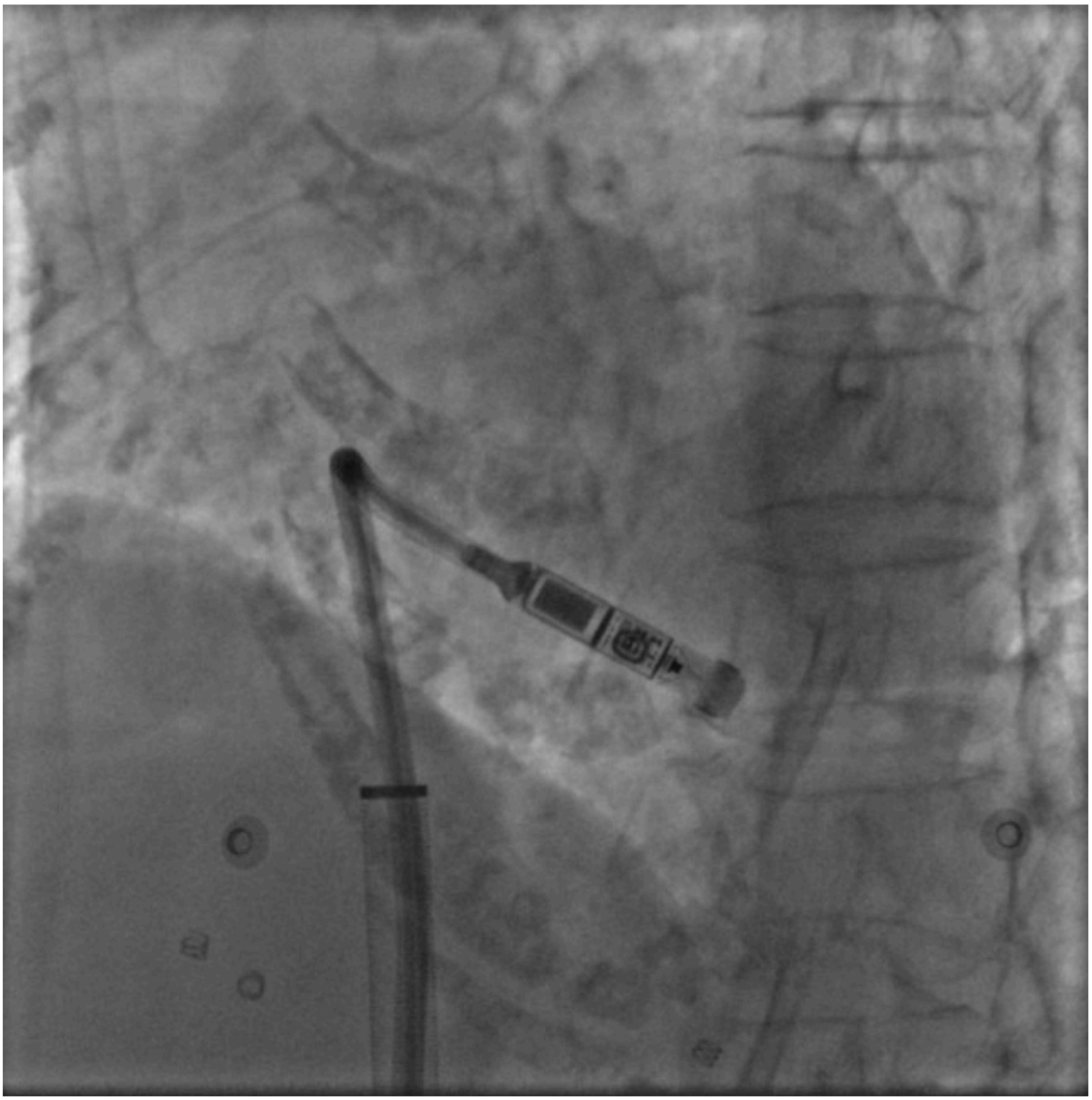

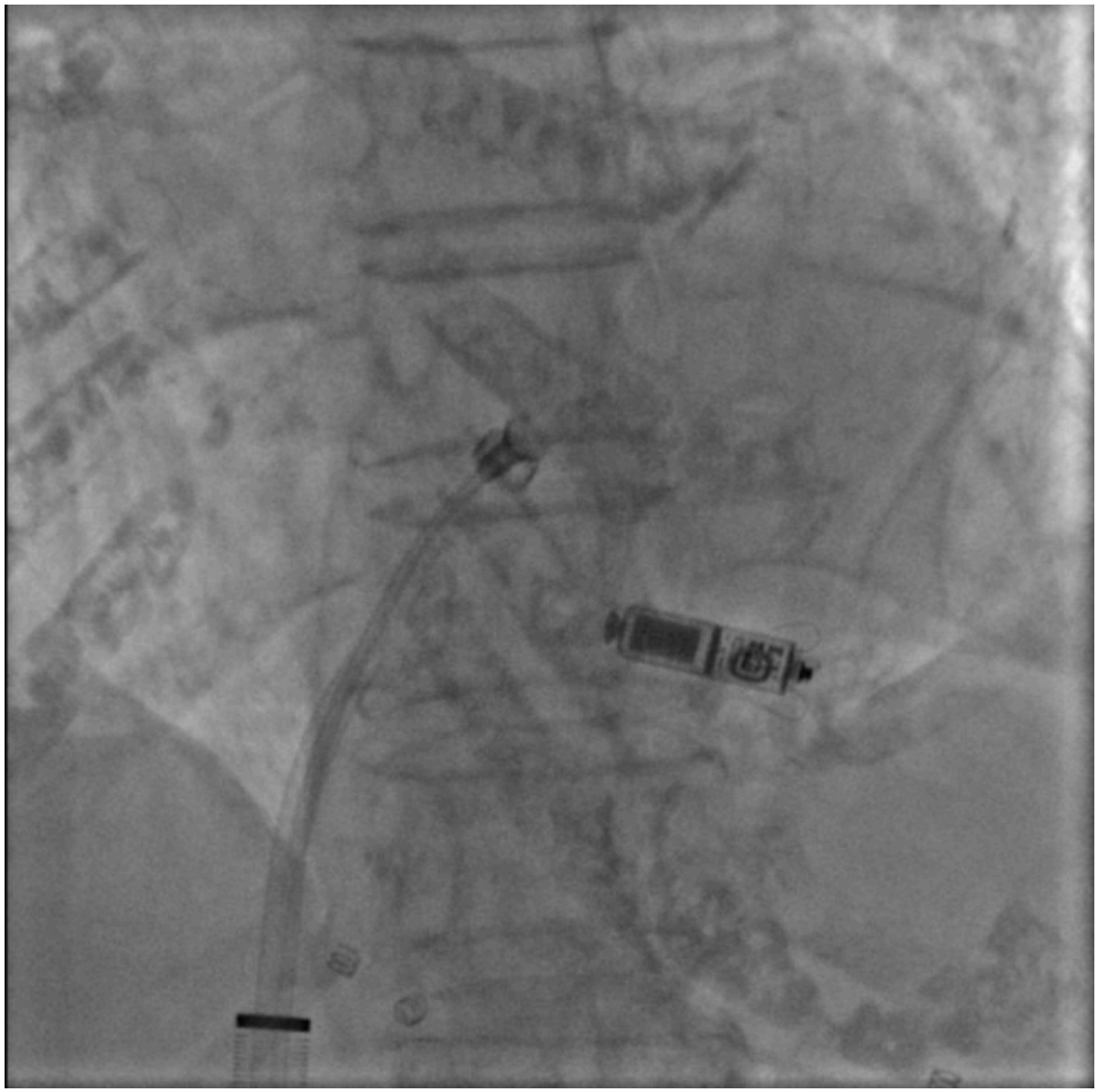

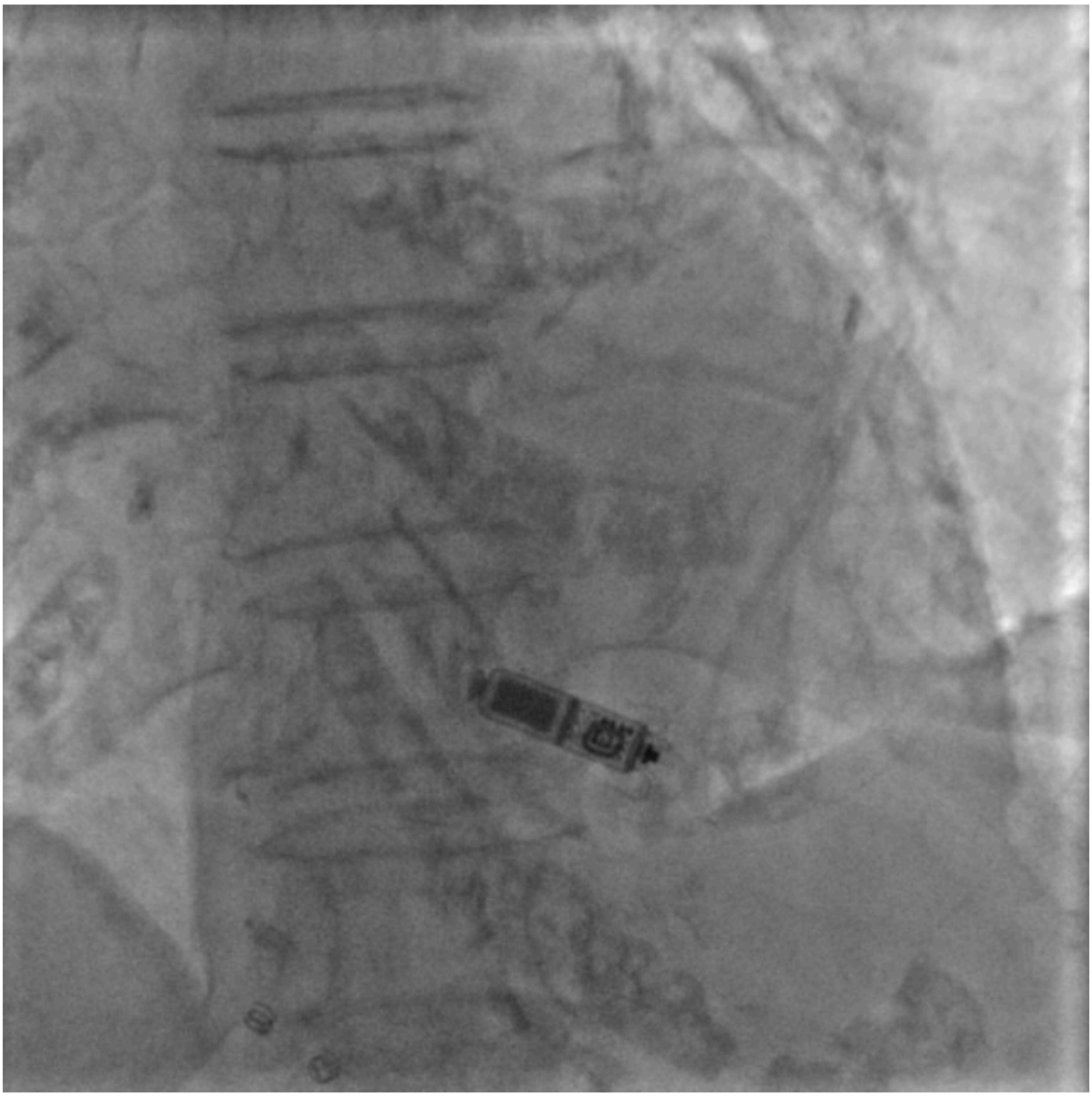

The use of leadless trans-catheter pacemakers (LP) is increasing particularly in the elderly population. However, there has been concern about using the in frail elderly patients because of the size of the implant sheath and perceived risk of perforation. We demonstrate a case of successful placement of a leadless pacemaker in an elder patient without any complication.

A 95 years old patient was admitted to emergency room with syncopy. Laboratory tests were normal and her ECG shows AV complate blok.She was very skinny and weak. Body mass index was 19. Patient and her family do not want a surgical procedure. But after talking about leadless pacemkaers, patient admitted the procedure. Pacemaker implantation was performed under mild sedation, through a 27 Fr outer-diameter right femoral venous sheath,using the Micra Transcatheter Pacing System (Medtronic) (Figure 1), with a right ventricular septal positioning (Figure 2). After device fixation and traction testing (Figure 3), the tether was cut and the delivery system was removed (Figure 4). Postoperative pacemaker parameters were good. There was not any groin complication after the first and second day of the procedure and patient was discharged second day of the procedure.

LP insertion in a very old and frail adult was technically challenging but possible and safe.Future improvements could include downsizing the size of the delivery sheath and adjustment of the sheath tip curve for small-sized and frail elder patients.

ID: **284**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Poster**

# Reoperation in graft infections

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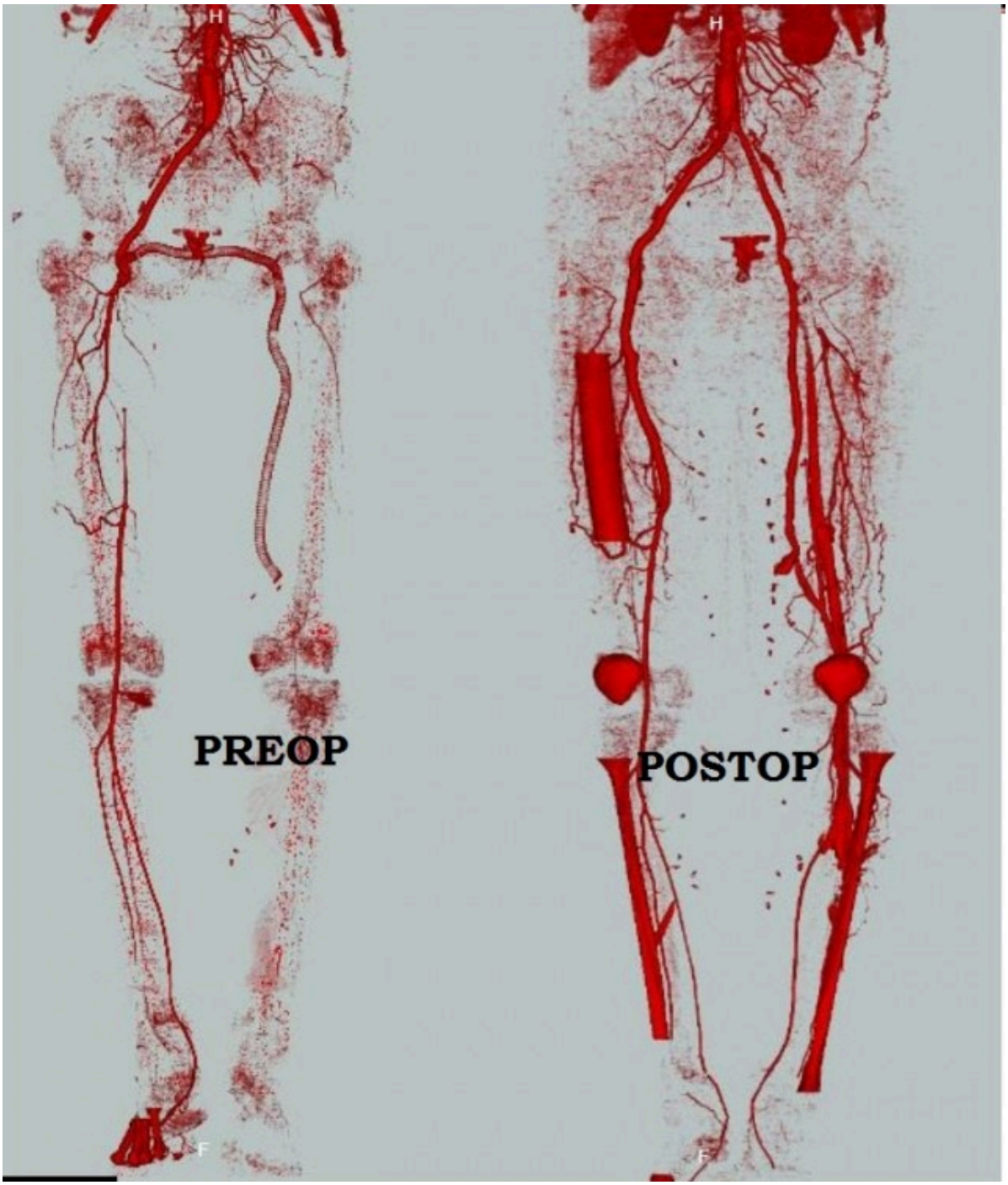


A 60-year-old male patient presented with ischemia in the left leg. All grafts were thrombosed on CT angiography at presentation. He had a skin defect wound of 5 cm in diameter in the inguinal region, which he had operated for 3 times in the past due to peripheral arterial disease and continued for 8 months after the last operation. In his history, first operation was aorto-bifemoral bypass, then the left leg of the graft was removed due to infection and right to left femoro-femoral cross-over bypass , thirdly left femoro-popliteal bypass were applied. Embolectomy was performed at the first stage as extremity salvage surgery and then a culture was sent from the wound after. Antibiotherapy for 3 weeks and vacuum assisted dressing was applied to the wound due to isolated pseudomonas infection. It was decided to replace the grafts due to infection of the femoropopliteal bypass graft and the femoro-femoral graft. After adequate antibiotherapy, left aorto-femoro-popliteal and right aortofemoral bypass were performed with saphenous vein grafts. While preparing the saphenous vein grafts, their valves were removed by turning them inside out with the help of a long skewer. In this way, the distal flow was strengthened by anastomosis with a wider saphenous vein in the proximal anastomosis area on the aorta. Graft infections in peripheral arterial disease often results in limb loss. The use of its own vein instead of foreign material ensures the healing of the infection.

ID: **285**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Poster**

# Surgery for an aneurysmatic arteriovenous malformation

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A 51-year-old female patient was admitted to the outpatient clinic with the complaint of swelling in the right thigh. Diffuse arteriovenous malformation was detected in the right thigh in the CT angiography of the patient with a history of trauma. In the 2-year follow-up, an increase in diameter was detected in the aneurysmatic regions. Since bleeding can be fatal in these patients, the operation was planned. The neck of the feeding artery of arteriovenous malformation in the right femoral region was ligated. In the control CT angiography taken 3 months later, it was observed that the aneurysmatic areas were mostly occluded because the proximal feeding artery was closed. Although the distal small feeding arteries prevented the complete disappearance of the lesion, the malformation was not dangerous. Although coil embolization is frequently applied in such cases today, surgery is still a cheap and safe alternative.

ID: **316**

Topic: **Cardiology > Hypertension and antihypertensive therapy**

Presentation Type: **Poster**

# NORMAL-APPEARING RENAL ARTERIES IN A PATIENT WITH NEW-ONSET STAGE 3 HYPERTENSION

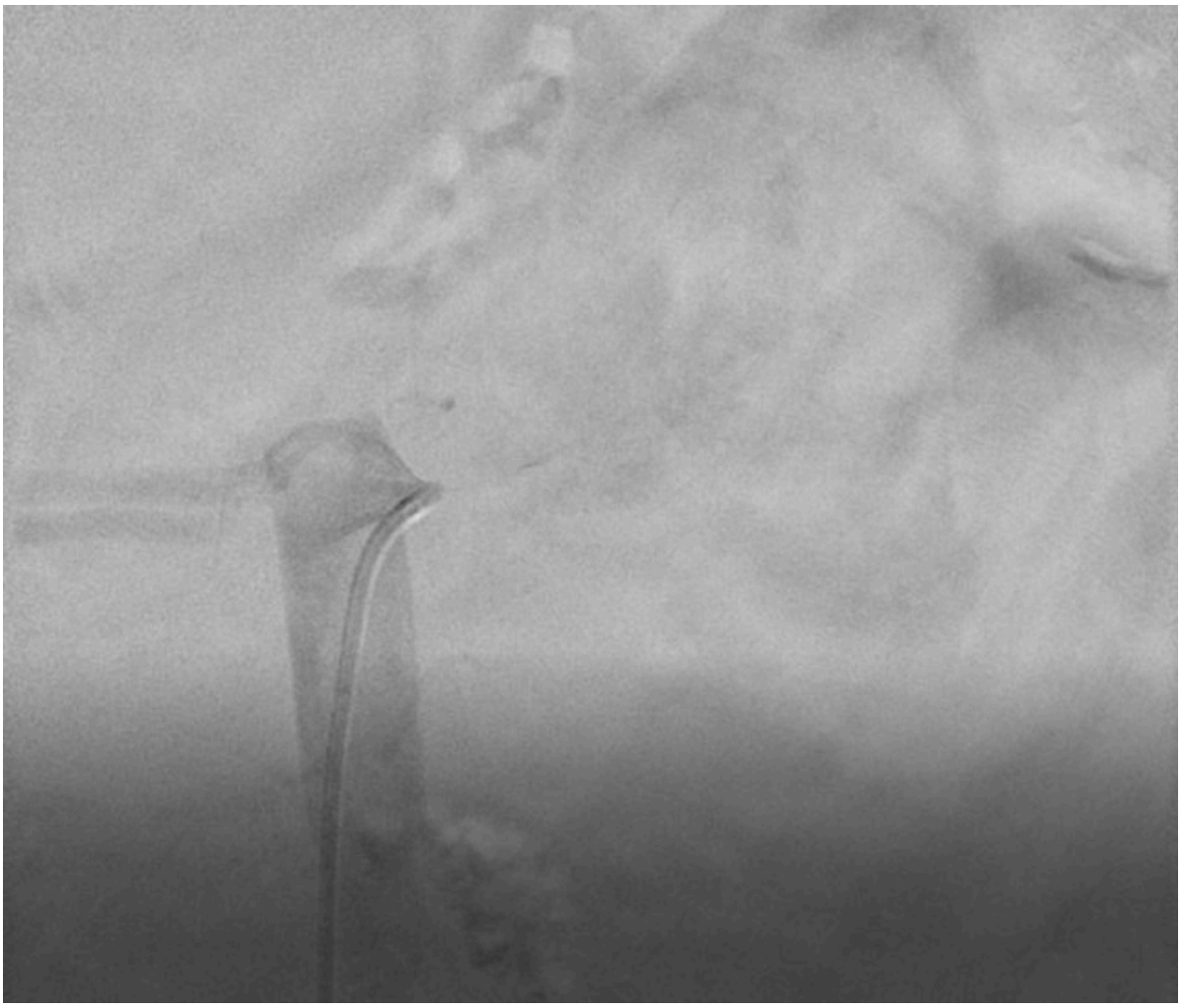
**Uğur KÜÇÜK**, Emine GAZI, **Cengiz DEMIR**

*Canakkale Onsekiz Mart University, ÇANAKKALE, Turkey*

Noninvasive imaging is often effective in guiding diagnosis and treatment in clinical practice. Sometimes there are cases where it is insufficient.

Case report: A 46-year-old male patient is being followed up with a diagnosis of new-onset stage 3 hypertension 1 year ago. It is understood from the patient's history that the patient frequently presents to the emergency department with hypertensive attacks and that despite the combination of different antihypertensive drugs, adequate treatment results could not be obtained. Despite repeated renal artery Doppler USG performed in different centers, no pathological condition was detected. Renal angiography was decided to be performed because the patient had recurrent episodes of hypertension. Angiography revealed severe stenosis in the left renal artery. The left renal artery was seated with a 6f jr 4 guiding catheter. Selective DSA images were taken. 95-99% stenosis could not be passed through the segment with a floopy wire. With microcatheter support, the distal renal artery was reached with a pilot 50*0.014 wire. After predilation was provided with 1.5*15 mm 3.0*15 mm and 4.5*20 mm balloons, a 6.0*18 mm renal HERCUL stent was placed in the lesion. The procedure was terminated after it was observed in the control images that full patency was achieved and there was no dissection or rupture. During the follow-ups, the patient did not have hypertensive attacks.

Conclusion: Although noninvasive imaging is the method of choice at first, individual additional tests should be considered according to the patient's anamnesis.



ID: **320**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Poster**

# AORTIC THROMBOEMBOLISM AFTER SURGERY IN A BLADDER CANCER PATIENT : CASE REPORT

**Yasin GUZEL**[1], Mustafa ÇELIK[2], Onur BENLI[1], Ferhat Can PISKIN[1], Yıldırım BAYAZIT[1], Mehmet Şah TOPCUOGLU[1]

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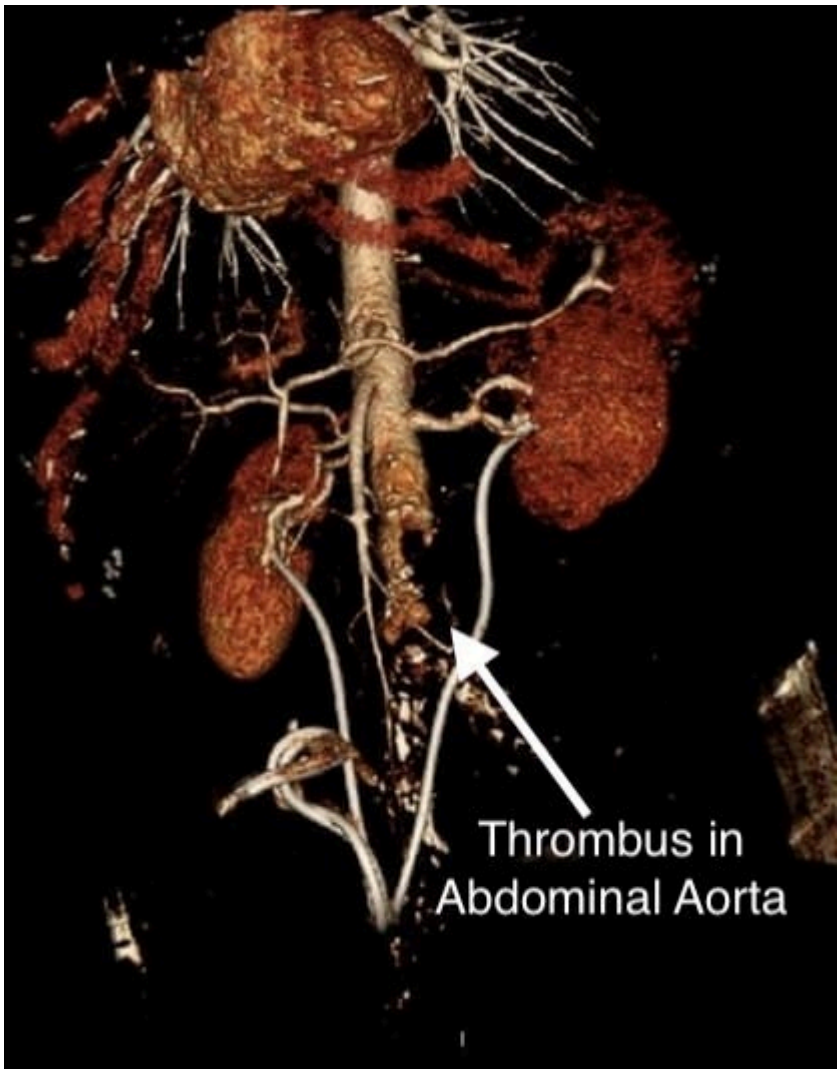
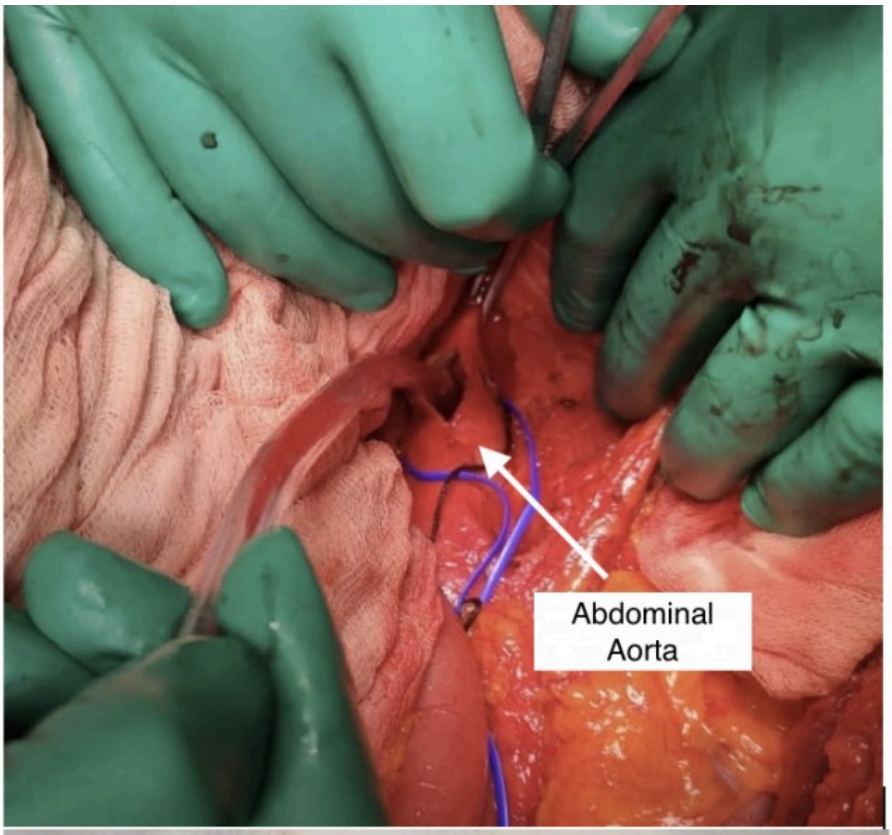
Introduction: It is known that malignancies increase the risk of venous and arterial thromboembolism. This risk increases especially in metastatic diseases and can be seen in bladder tumors, especially in the post-operative period. In this publication, we aimed to present a case of a thrombus that developed in the abdominal aorta in the post-op period after radical cystectomy and was surgically intervened.

Case: A 65-year-old male patient was admitted to urology due to hematuria. A mass was detected in the bladder during the imaging. Transurethral resection of the mass was performed. The pathology result is muscle-invasive high-grade urothelial carcinoma. Since there is no metastasis, the patient undergoes laparoscopic radical cystectomy, superextended pelvic lymph node dissection and ileal loop urinary diversion operation. During the operation, a 3 mm laceration occurred in the right external iliac vein. The laceration was repaired with a prolene suture. The patient, whose operation lasted 12 hours, came to the urology service at night in the postoperative period. Enoxaparin was administered both intraoperatively and at the postoperative 12th hour. The patient was not mobilized in the early postoperative period. In the morning, numbness began in the legs, and motor deficit developed in the lower extremities during the day. The patient was consulted to cardiovascular surgery when there was no pulse from the distal of both lower extremities. On examination, it was observed that there was no pulse in the bilateral femoral artery and its distal, and coldness and pallor in the lower extremities of the feet. Emergency CT angiography was performed and a thrombus in the aorta was observed at the infrarenal level. (Figure 1) The patient was taken into operation and thrombectomy and aorta pant graft were performed. (Figure 2) The patient, whose general condition was poor in the post-op period, was transferred to reanimation with a preliminary diagnosis of reperfusion syndrome. The patient, who had a hypotensive course on the 1st post-operative day, had cardiac arrest, and the patient who did not respond after CPR was considered dead.

Discussion and Conclusion: Vascular evaluation and thromboembolism prophylaxis are important in malignancies, especially in the early postoperative period. Both surgery and chemotherapy increase the risk of thromboembolism. Although venous thromboembolism is frequently seen in these patients, the risk of arterial thromboembolism is also increased. Various mechanisms have been described for the etiology of this increased risk. It is important for surgeons to be aware of complications and act early. Early diagnosis and a multidisciplinary approach can help prevent morbidity-mortality in thromboembolism.


Thrombus in
Abdominal Aorta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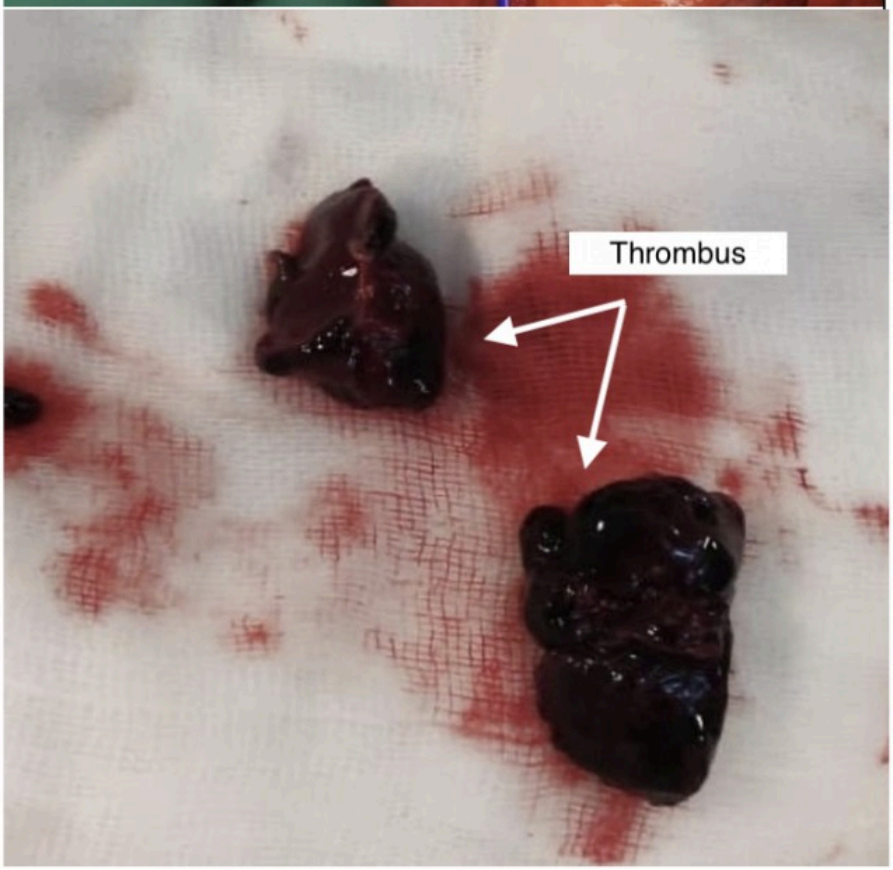
Thrombus

ID: **323**

Topic: **Cardiovascular Surgery > Vascular surgery and vascular access**

Presentation Type: **Poster**

# EXTRAANATOMIC BY-PASS IN A PATIENT OPERATED FOR RELAPSED VULVAR CARCINOMA : A CASE REPORT

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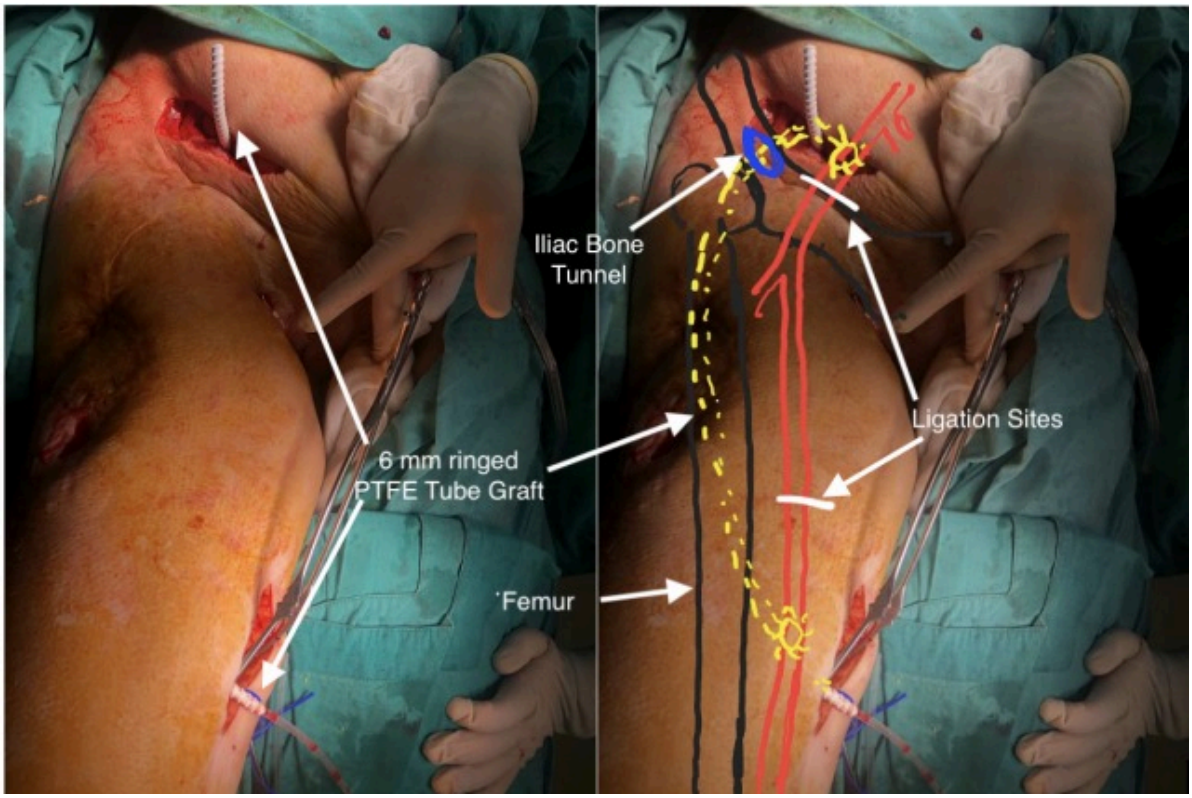
Introduction: Extra-anatomical by-pass is the bypass of two vessels in a place other than their normal anatomical course. It is not always possible to provide vascular continuity after the operation in aggressive gynecological malignancies. Extraanatomical by-pass with a graft is sometimes required, especially in the invasion of the iliac and femoral vessels, the involvement of the inguinal region and the proximal part of the thigh. In this case, we aimed to present a patient who was operated for vulvar carcinoma with a history of chemotherapy-radiotherapy and developed relapse that underwent extraanatomical bypass due to bleeding from right femoral artery invasion.

Case: A 37-year-old female patient had been operated 3 times for vulvar carcinoma and recurrence. The patient, who had her last surgery 1 year ago, applied to gynecology with the complaint of bleeding from the femoral wound. CT Angiography showed no signs of extravasation and the patient was hospitalized in the gynecology ward. Cardiovascular surgery was consulted for the patient whose bleeding continued in the follow-up. The patient was taken into operation after appropriate blood preparation. The bleeding site was explored in the right femoral region. Extraanatomical by-pass was planned due to the presence of invasion on the femoral artery. An incision was made in the lower right quadrant of the abdomen. The iliac artery and vein were found, the external iliac artery was ligated distally and the femoral artery was ligated from proximal. A tunnel was created on the iliac bone by the orthopedic surgeon to create an extraanatomical channel for the graft. Through this tunnel, iliofemoral by-pass was performed extraanatomically by placing a 6 mm ringed Polytetrafluoroethylene (PTFE) tube graft from the lateral femoral artery to the hunter's canal. (Figure 1) First, the PTFE graft was anastomosed to the proximal iliac artery and then to the distal femoral artery. The patient, who remained in reanimation for 4 days in the post-operative period, was then taken to the gynecology service. No post-operative complications developed. It was seen that the graft was patent in the CT Angiography.(Figure 2) The patient was discharged on the tenth post-operative day.

Discussion and Conclusion: Anatomical by-passes may not be appropriate in cases of tumor or serious infection. In such cases, extraanatomical bypasses are of great importance in order to protect the limb and protect the patient from amputation. Extraanatomical bypasses have not been reported frequently in the literature and case series are limited. These patients should be followed up for long-term results.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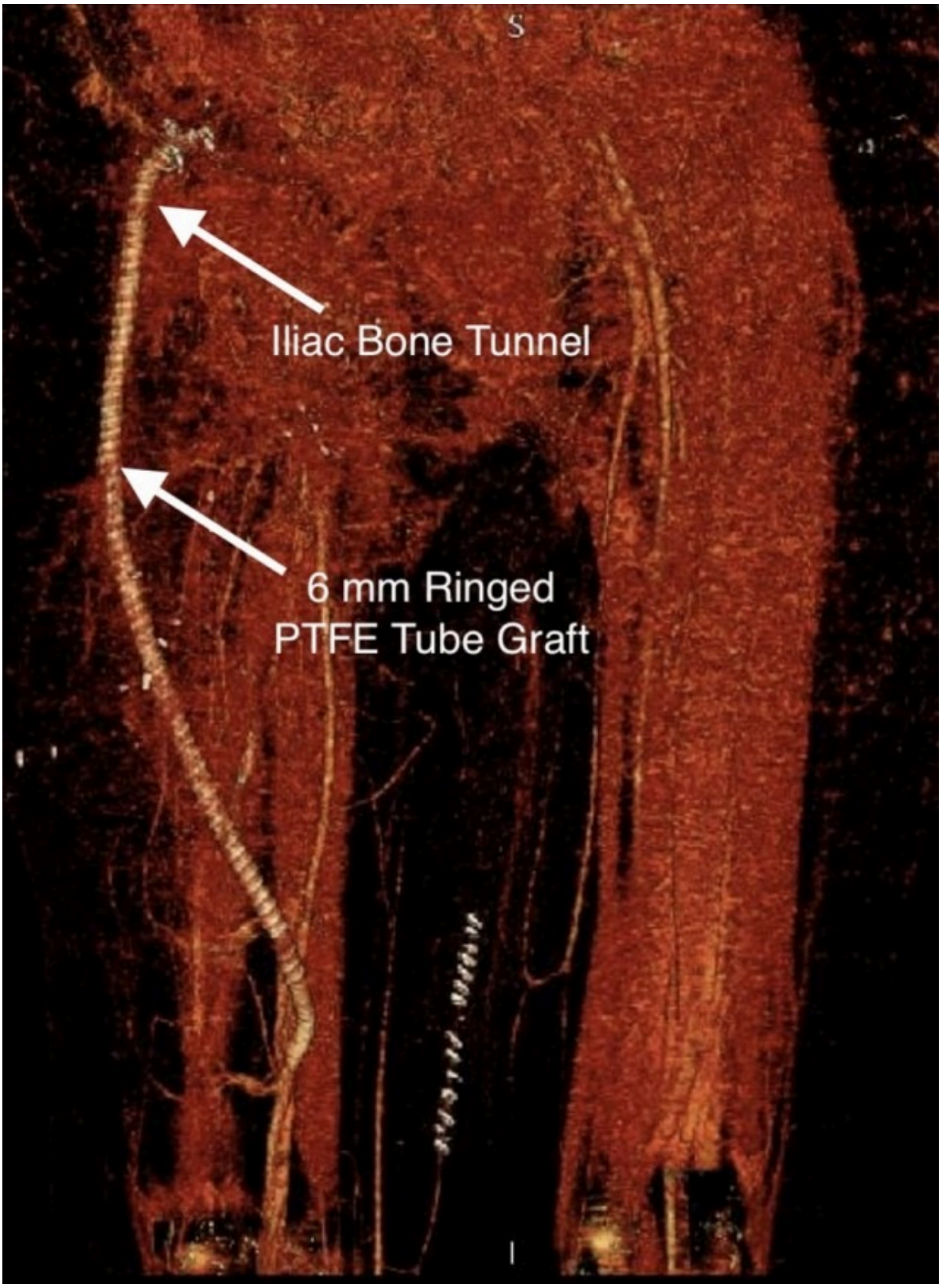
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Iliac Bone Tunnel
6 mm Ringed
PTFE Tube Graft
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ID: **326**

Topic: **Cardiology > PI for SHD-Others**

Presentation Type: **Poster**

# INADVERTENT INSERTION OF PIGTAIL CATHETER IN THE LEFT VENTRICLE DURING PERICARDIOCENTESIS

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A 84-years old man
presented with massive pericardial effusion. Transthoracic
echocardiography revealed large pericardial effusion, 26 mm adjacent
to the right ventricle, 32 mm behind the left ventricle with partial
compression of the right atrium. He was hemodynamically stabile with
no evidence of cardiac tamponade. There was not a clear etiology of
pericardial effusion and a decision of pericardiocentesis was made
for diagnostic purpose. She underwent pericardiocentesis with
flouroscopic guidance and subcostal approach. The puncture was made 1
cm left lateral to the xiphoid process towards to left shoulder. A
0.038 inch guidewire was advanced and a 5 F dilatator was used
through this wire. Thereafter a 6 F pigtail catheter was inserted.
Contrast enjection through the catheter demonstrated that pigtail
catheter was inadvertently inserted in the left ventricle. This was
thought to be due to kyphoscolosis and medial displacement of left
ventricle. No hemodynamic compromise was observed and we decided to
retrieve pigtail catheter after insertion of a new pigtail catheter
into the pericardial space. After insertion of new catheter in
pericardium, prior pigtail catheter was retrieved from left ventricle
through 0.038 inch wire. After a few minutes of pericardial fluid
drainage, the catheter was occluded with fibrotic plug and did not
work. A successful pericardiocentesis was performed with sampling of
pericardial fluid and tissue. In conclusion, inadvertent catheter
insertion into the left ventricle is a rare complication of
pericardiocentesis and retrieval of smaller catheters ( < 6 F )
from left ventricle may be safe with back-up cardiac surgery.(video 1- www.youtube.com/shorts/qzEyao7wblE)